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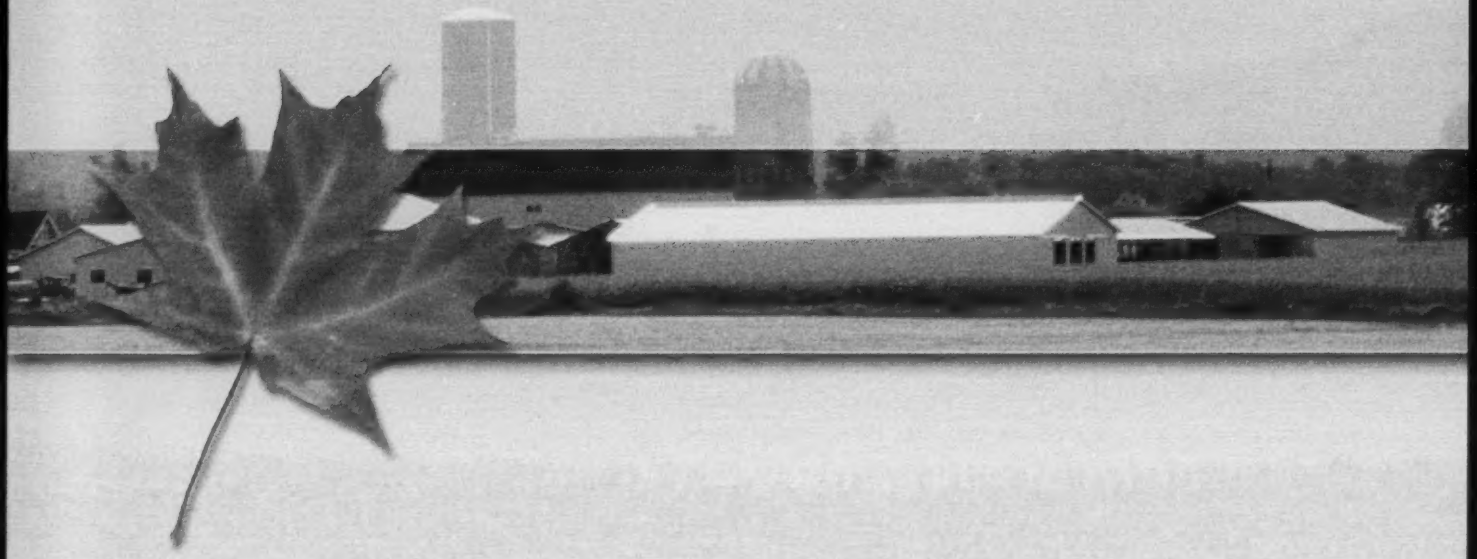

2013

An Overview of the Canadian Agriculture and Agri-Food System

Canada

An Overview of the Canadian Agriculture and Agri-Food System

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March 2013

Research and Analysis Directorate
Strategic Policy Branch
Agriculture and Agri-Food Canada

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AAFC 12010E
ISSN 1708-4164

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FOREWORD

This 2013 report provides an economic overview of the Canadian agriculture and agri-food system with the latest comprehensive annual data from 2011. It is meant to be a multi-purpose reference document to provide:

- a snapshot of the structure and performance of the system including the changes that are occurring in response to challenges, opportunities and market developments; and
- background data and information to inform public discussions on these challenges and opportunities.

Charts and tables with brief accompanying text are used to summarize information and to provide base indicators of structure and performance.

The 2013 report begins with a Special Feature section that provides data and information from Statistics Canada's 2011 Census of Agriculture, describing the primary agriculture industry in Canada.

A second Special Feature section provides data and information about the global context for agriculture in 2011.

The report then provides a general picture of the economic contribution of the system to the Canadian economy, as measured by its share of Gross Domestic Product (GDP) and employment. This is followed by a snapshot of each segment of the system, starting downstream from consumers and food retail/wholesaling, and heading upstream to food and beverage processing, primary agriculture and farm input and service suppliers. The report concludes with a review of government expenditures in support of agriculture and agri-food, including international comparisons of government measures of support.

The report describes the Canadian agriculture and agri-food system as a modern, highly complex, integrated, internationally competitive and growing part of the Canadian economy. It is a resilient system, continuously attempting to respond to the challenges and opportunities it faces by restructuring and adapting to changing consumer demands, advancing technology and globalization.

HIGHLIGHTS

IMPORTANCE OF THE SYSTEM TO THE CANADIAN ECONOMY

- The agriculture and agri-food system encompasses several industries including the farm input and service supplier industries, primary agriculture, food and beverage processing, food distribution, retail, wholesale and foodservice industries.

- It continues to play an important role in federal and provincial economies, where it makes a significant contribution to Gross Domestic Product (GDP) and employment, directly providing one in eight jobs, employing 2.1 million people and accounting for 8.0% of total GDP.

- In 2011, GDP in the agriculture and agri-food system regained its value achieved prior to the economic recession of 2009.

- While primary agriculture accounts for a small share of the total economy (1.7% of GDP), it is at the heart of the agriculture and agri-food system and has grown on average by 1.4% per year since 1997.

GLOBAL CONTEXT

- The agriculture and agri-food sector continues to be internationally focused, with the value of Canada's agriculture and agri-food trade now growing, after slowing during the recession.

- The composition of trade has also changed since the late 1990s with increasing exports of higher value-added processed goods that meet changing global demands. However, recent export growth has been led by increased exports of primary agriculture products.

- At the same time, the emergence of major growth economies such as China and Brazil, have added to the challenges and opportunities of exporting to these export destinations while competing in global markets.

- Export opportunities are critical for the growth of the Canadian agriculture and agri-food sector. The report shows Canada as the sixth-largest exporter and sixth-largest importer of agriculture and agri-food products in the world [if the EU is treated as a bloc], with exports and imports valued at $40.3 billion and $31.0 billion, respectively.

- The competitiveness of the agriculture and agri-food sector depends on its ability to remain profitable and viable over the long term in relation to its competitors in relevant markets. Long-run sales growth in domestic and international markets shows that Canada remained relatively competitive in markets for agriculture and agri-food products in 2011.

COMPONENTS OF THE AGRICULTURE AND AGRI-FOOD SYSTEM

Consumers

- Changing consumer and societal demands are influencing changes throughout the whole agriculture and agri-food system. Consumers are demanding more variety, more convenience, more environmentally-friendly and healthier food choices, as well as food that addresses their values, e.g. organic and halal products, accompanied by proper assurances of quality and safety.

- In 2011, Canadian consumers spent $181 billion on food, beverages and tobacco from stores and restaurants. Food, beverages and tobacco account for 18.4% of total personal spending. Relative to other countries, Canadians enjoy some of the lowest food costs in the world, with spending on food and non-alcoholic beverages from stores accounting for just under 10% of personal household expenditures.

- Retail food prices rose by more than the overall rate of inflation, increasing by 3.7% compared to the 2.9% rate for the overall economy.

Food and Beverage Processing

- The food and beverage processing industry transforms primary production, and as such, it is important for the agriculture industry, since 34% of agricultural production was used as raw material inputs directly by the food processing industry.

- Food and beverage processing which is one of the top manufacturing industries in Canada, experienced growth in employment and shipments in 2011. However, a higher Canada-U.S. exchange rate and rising input costs led to competitive challenges for the sector, which will need to be addressed by increasing investments and innovation.

Primary Agriculture

- According to the latest Census of Agriculture, family farms continue to evolve and restructure in response to changing market conditions, so the number of farms continues to decline, but also continues to get larger. There were a reported 205,730 farms in Canada, down 10% from 2006, with the average farm size growing to 779 acres.

- The mix of crops and livestock production is evolving, reflecting changes in the types of products consumers are demanding and changing market prices and conditions. Non-durum wheat is no longer king–it has been overtaken by canola; and soybean area also increased between 2006 and 2011. Livestock numbers are down significantly from previous censuses.

- Farm performance, as measured by farm income and net worth, continued to remain strong overall. Net cash income, after adjusting for inflation, was up 17% over that of 2010, as farm cash receipts grew more than net operating expenses. Market receipts were boosted by higher grain and oilseed prices and red meat prices. Expenses were up in 2011 due to higher fuel, feed, fertilizer and seed prices.

- Farm net worth continues to grow in the face of higher asset values, particularly land values, and record low interest rates which helped keep farm debt servicing costs down. Farm debt to asset ratios continued to fall to historically low levels.

- Young farmer enterprises (YFEs) which are managed solely by young operators between the ages of 18 and 39 years, while small in number, are important for the future of the sector. YFEs accounted for 7.5% of Canadian farms in 2010, but earned more from both farm and non-farm sources compared to older farm enterprises.

GOVERNMENT EXPENDITURES IN SUPPORT OF THE SECTOR

- Total government (federal and provincial) support to the agriculture and agri-food sector is estimated to have increased slightly to $7.5 billion in 2011-12; this represented 26.7% of agriculture GDP.

- Program payments continue to account for the largest portion of both federal and provincial government expenditures in support of the sector in 2011-12 at 36%, followed by spending on research and inspection at 30%.

- Government support to the sector varies across provinces. On the basis of government support as a percentage of agriculture and agri-food GDP, farmers in Manitoba, Quebec, Nova Scotia, Prince Edward Island and Newfoundland and Labrador received the most support. Federal support accounted for a larger share in B.C, Saskatchewan, Manitoba and New Brunswick.

- Government spending in support of public R&D in agriculture and agri-food is important for the future productivity growth and competitiveness of the sector. This spending has been increasing over the past four years, and is expected to reach $561 million in the 2011-12 fiscal year.

- Agricultural policies in Canada and other countries have evolved over time. Some countries have made major reforms to their agricultural policies, leading to reductions in levels of support and modifications to the types of support provided.

- Canada's Producer Support Estimate (PSE) for all commodities was estimated at 14% of gross farm receipts in 2011, compared to 8% for the U.S. and 18% for the EU. In 2011, the PSE declined for the main OECD countries mainly because of higher gross farm receipts and reduced market price support due to higher world dairy prices.

SECTION A

Special Features

SECTION A1

Census of Agriculture Summary

Introduction:

The agriculture sector continues to undergo significant transformation as it faces constant challenges and adapts to change, according to Statistics Canada's 2011 Census of Agriculture. Farms continue to fall in number, but are getting larger in size. The production of agricultural commodities in Canada is becoming more concentrated as the share of production accounted for by large farms continues to grow. The mix of crops and livestock production is changing, reflecting changes in the types of products consumers are demanding and changing market prices and conditions. There is an increasing number of farms growing organic products and adopting environmentally-friendly farm practices, as well as producing for export markets and global supply chains.

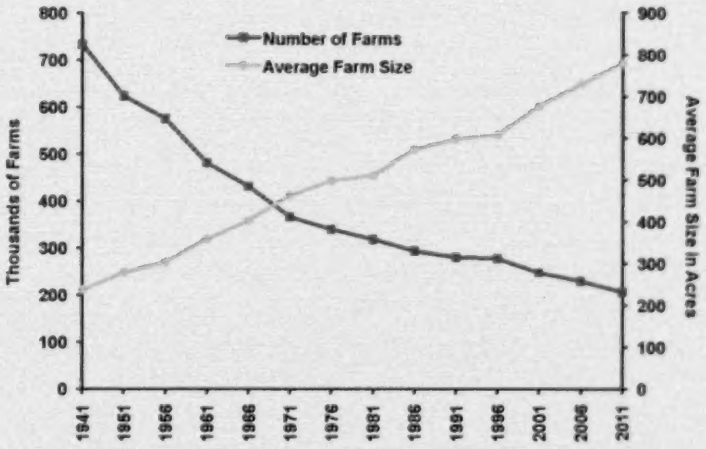
Note: For all charts in this section, the reference periods may vary according to the variable under consideration. For data from the 2011 Census of Agriculture, any information related to number or distribution of farms is reported for 2011. Any information related to gross farm receipts, off-farm income or employment was collected for 2010 and therefore is reported in 2010 dollars.

Over the past 70 years, average farm size almost quadrupled, while the number of farms in Canada declined.

In 2011, there were 205,730 farms, representing a 10.3% decline from 2006. This compares to a 7.1% decline between 2001 and 2006.

At the same time, the average farm size is becoming larger, rising from 237 acres per farm in 1941 to 779 acres in 2011. This is an ongoing trend reflecting technological advances and consolidation.

Chart A1.1
Number and Size of Farms in Canada, 1941-2011



Source: Statistics Canada, Census of Agriculture, various years.

Total farmland area decreased, while average farm size increased.

Total farmland area decreased in all provinces between 2006 and 2011, with the exception of Nova Scotia which increased 2.4%. Farmland area in Ontario, Manitoba and B.C. decreased by more than the average, with Newfoundland and Labrador farm acreage decreasing the most (13.8%).

Average farm size, in terms of acres, continues to increase as farms are becoming larger. Farms in Saskatchewan remain the largest with an average land area of 1,668 acres, an increase of 15.1% since 2006. This is followed by Alberta and Manitoba farms, which increased in size by 10.7% and 13.4%, respectively. British Columbia, Newfoundland and Labrador and Nova Scotia were the provinces where average farm size decreased, by 7.4%, 5.0% and 0.4%, respectively.

Chart A1.2
Farmland Area and Average Farm Size by Province, 2006 and 2011

Province	Farmland (Thousand Acres)			Average Farm Size (Acres)		
	2006	2011	Percent Change	2006	2011	Percent Change
Canada	166,984	160,156	-4.1%	728	779	7.0%
N.L.	89	77	-13.8%	160	152	-5.0%
P.E.I.	621	594	-4.3%	365	398	9.0%
N.S.	994	1,018	2.4%	262	261	-0.4%
N.B.	977	938	-4.0%	352	359	2.0%
Que.	8,558	8,257	-3.5%	279	280	0.4%
Ont.	13,330	12,668	-5.0%	233	244	4.7%
Man.	19,073	18,023	-5.5%	1,001	1,135	13.4%
Sask.	64,233	61,628	-4.1%	1,449	1,668	15.1%
Alta.	52,150	50,499	-3.2%	1,055	1,168	10.7%
B.C.	7,005	6,453	-7.9%	353	327	-7.4%

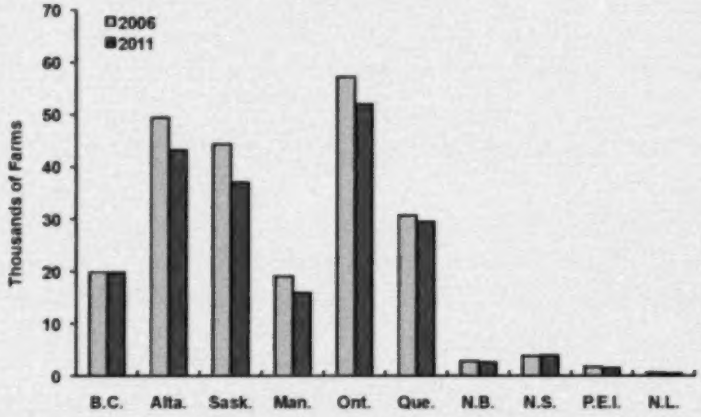
Source: Statistics Canada, Census of Agriculture, 2006 and 2011.

While the distribution of farms by province has remained relatively constant since the last census, there has been a shift in the number of farms by farm type

The number of farms continued to decline in all provinces in 2011, except for Nova Scotia which reported a small increase.

Ontario continued to have the most farms at 51,950, down from 57,211 in 2006. This was followed by Alberta at 43,234 farms and Saskatchewan at 36,952 farms in 2011. The number of farms in British Columbia remained virtually unchanged over the period as did Quebec at 19,759 and 29,437 farms, respectively in 2011. Manitoba and Saskatchewan reported the largest declines in the number of farms between 2006 and 2011, at 16.7% and 16.6% respectively.

Chart A1.3
Number of Farms by Province, 2006 and 2011



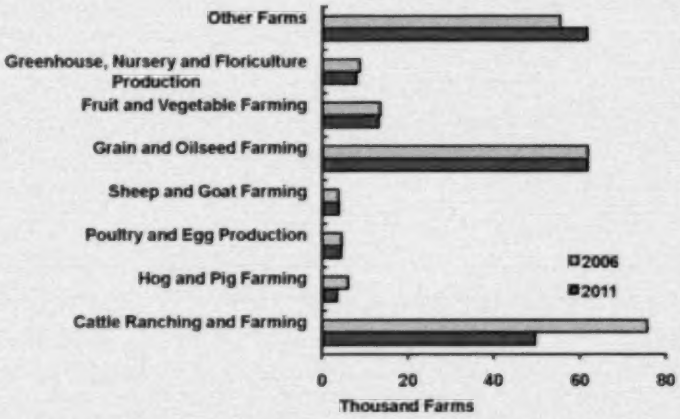
Source: Statistics Canada, Census of Agriculture 2006 and 2011.

Grain and oilseed farms continued to represent the greatest number of farms across Canada and remained unchanged in number since 2006.

Cattle ranching, while significantly lower in number in 2011, was another important farm type.

Other farms, which grew in number between 2006 and 2011, also represented a significant share of farms. This reflects the growth in other crops, including hay, maple syrup and maple products, or combinations of fruits and vegetables.

Chart A1.4
Number of Farms by Farm Type, 2006 and 2011



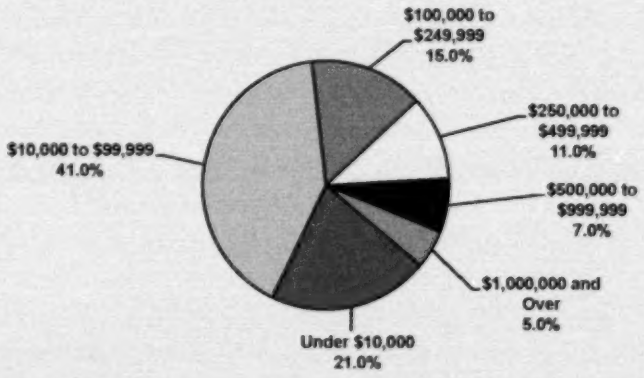
Source: Statistics Canada, Census of Agriculture 2006 and 2011.

The number of farms with sales of over one million dollars accounted for a larger share of production and farms in 2011

These farms increased as a share of all farms from 3.2% in 2006 to 5.0% in 2011. Although these farms are relatively few in number, they accounted for 49.1% of gross farm receipts in 2011 (at 2010 constant prices), up from 42.8% in 2006. The vast majority of these farms are family owned and operated.

Large farms, with revenues between $500,000 and $999,999 also increased in importance, growing from 5.4% of farms in 2006 to 6.8% in 2011. They accounted for 18.8% of gross farm receipts in 2011.

Chart A1.5
Distribution of Farms by Revenue Class, (2010 $)
2011



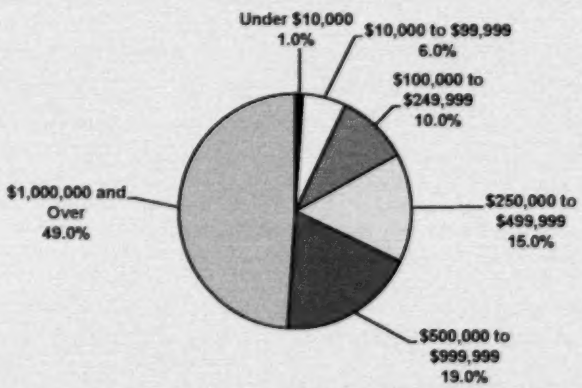
Source: Statistics Canada, Census of Agriculture 2011.

Small and medium-size farms, while still the largest in number, accounted for a smaller share of production.

Micro farms with revenues under $10,000 and small farms with revenues between $10,000 and $99,000 made up 62.4% of all farms in Canada, but accounted for only 6.7% of gross farm receipts.

Medium-sized farms, with revenues between $100,000 and $249,000 represented 15.4% of farms, but only 9.9% of gross farm receipts. Farms with revenues between $250,000 and $499,999 represented 10.9% of farms and 15.5% of receipts.

Chart A1.6
Distribution of Production by Revenue Class, (2010 $)
2011

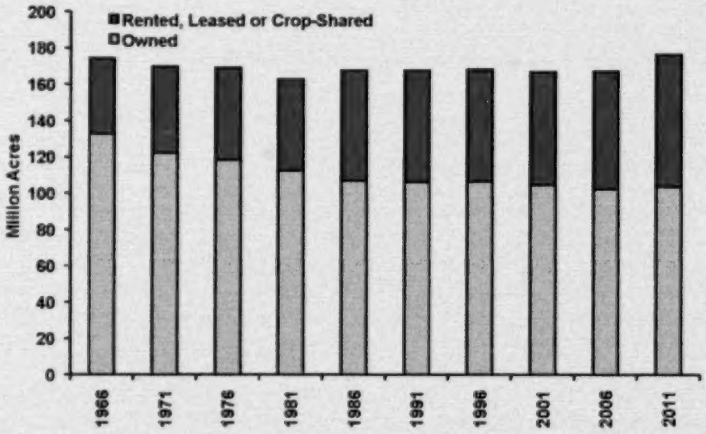


Source: Statistics Canada, Census of Agriculture 2011.

While land ownership remains an attractive tenure option, land rental offers a less capital-intensive means of expanding an operation.

Owned land, as a proportion of total farm area, has been decreasing over time as farmers respond to increasing land values by renting land instead. In 2011, 58.6% of land was owned, down from 76.1% in 1966.

Chart A1.7
Total Farm Area by Land Tenure, 1966-2011

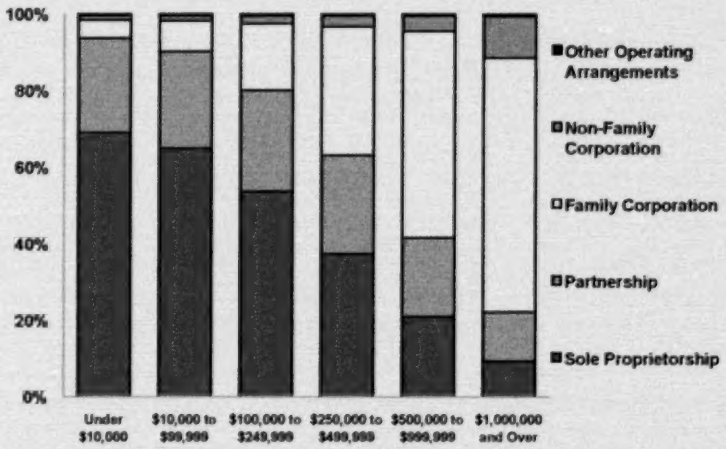


Source: Statistics Canada, Census of Agriculture, various years.

As farm size increases, farms tend to incorporate.

The vast majority of operations in Canada continue to be owned and run as family enterprises, with family members making the business decisions and generating the vast majority of Canadian agricultural sales. In 2011, 19.7% of farms were incorporated and 80.3% were unincorporated, sole proprietorships or partnerships.

Chart A1.8
Distribution of Farms by Organizational Arrangement and Revenue Class, 2011

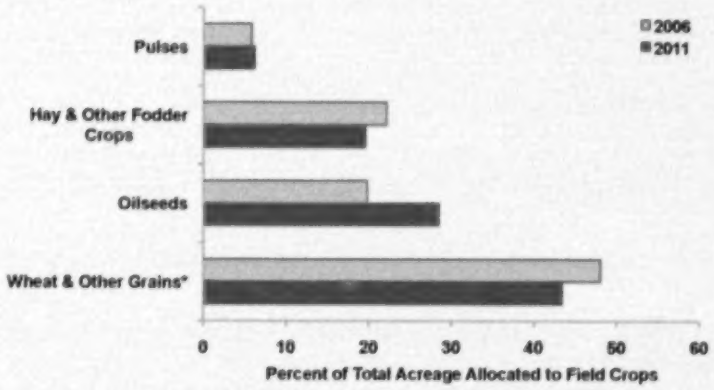


Source: Statistics Canada, Census of Agriculture 2011.

Total area planted to wheat and other grains continued to decline between 2006 and 2011 from almost 50% to under 45%, while oilseed acreage increased from 20.4% to 28.6%.

Increased prices for cash crops, coupled with declining livestock numbers, led to a shift in field crops away from hay and other fodder crops (down from 22.2% to 19.6%) to more profitable cash crops, such as soybeans and canola.

Chart A1.9
Acreage Allocation to Pulses, Hay, Oilseeds and Wheat, 2006 and 2011



Source: Statistics Canada, Census of Agriculture, 2006 and 2011.
Note: *Other grains include oats, barley, mixed grains, corn for grain, rye and buckwheat.

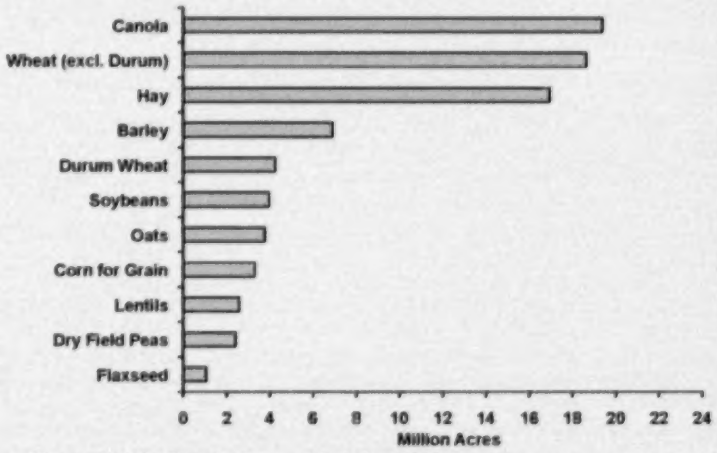
Canola was the number one field crop in 2011, surpassing non-durum wheat for the first time ever

The area allocated to canola surpassed that of spring wheat, making it the number one field crop in 2011.

Canola acreage was up 55.9% and non-durum wheat acreage was down 9% between 2006 and 2011.

Total soybean area also increased by 33.2% as a result of higher oilseed prices, strong demand from emerging economies and higher yields from new varieties. Lentil area doubled since 2006, while area allocated to barley, oats and field peas was down 24.5%, 26.2% and 22.8%, respectively.

Chart A1.10
Acreage Allocation to Various Field Crops, 2011

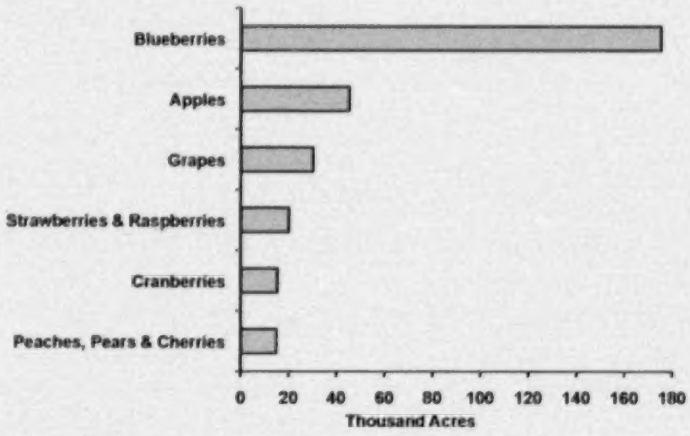


Source: Statistics Canada, Census of Agriculture, 2011.

Total area in fruit in Canada increased by 14.7% between 2006 and 2011, largely due to significant increases in the area in blueberries and cranberries.

Area in strawberries, raspberries and most tree fruits declined. Rising labour costs, stiff import competition and loss of processing markets were among the reasons for this decline.

Chart A1.11
Acreage Allocation to Major Fruits, 2011

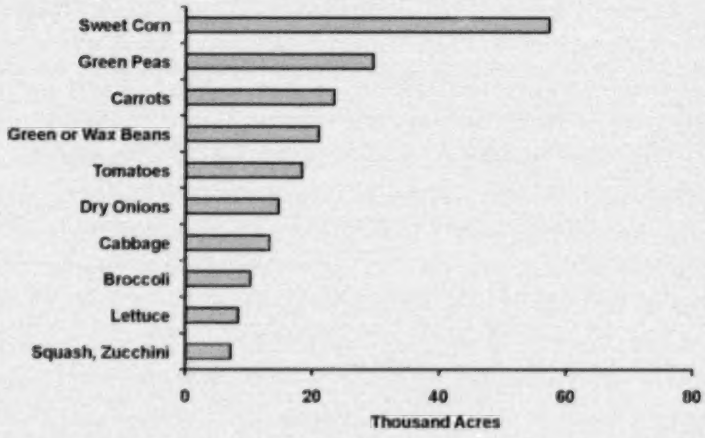


Source: Statistics Canada, Census of Agriculture, 2011.

A strong Canadian dollar, rising imports and processing plant closures contributed to the decline in vegetable acreage.

Between 2006 and 2011, the total area in vegetables decreased by 13.5% in Canada. Sweet corn, which decreased by 23.3%, is still the most widely planted vegetable accounting for 21.4% of total vegetable area. Other vegetables that declined in acreage included green peas (down 28.9%), green or wax beans (down 22.7%) and tomatoes (down 17.6%).

Chart A1.12
Acreage Allocation to Major Field Vegetables, 2011



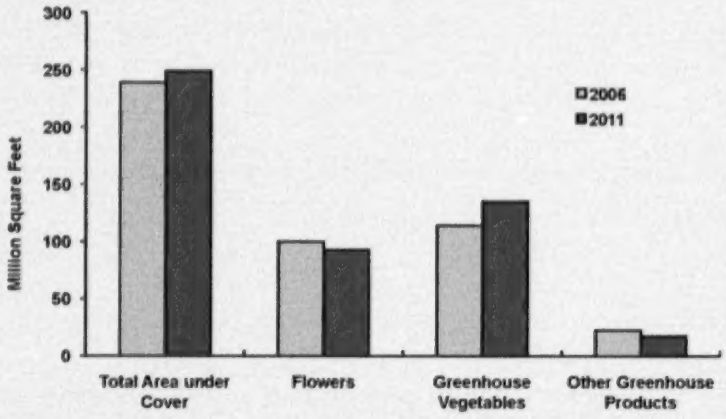
Source: Statistics Canada, Census of Agriculture, 2011.

The greenhouse industry expanded in area despite a decline in the number of operations

Between 2006 and 2011, greenhouse area in Canada, as measured by the area under cover/glass, increased by 4.2%.

Area in greenhouse vegetables surpassed that of greenhouse flowers as the main greenhouse product. Canada increased its production of cucumbers, peppers and hothouse tomatoes grown under cover. Growth was supported by the demand for year-round, high quality produce, particularly from a stable U.S. export market. However, the number of operations decreased by 10.7%, falling from 5,600 operations in 2006 to 5,000 in 2011, as the industry consolidated and increased scale.

Chart A1.13
Greenhouse Area in Canada, 2006 and 2011



Source: Statistics Canada, Census of Agriculture, 2006 and 2011.

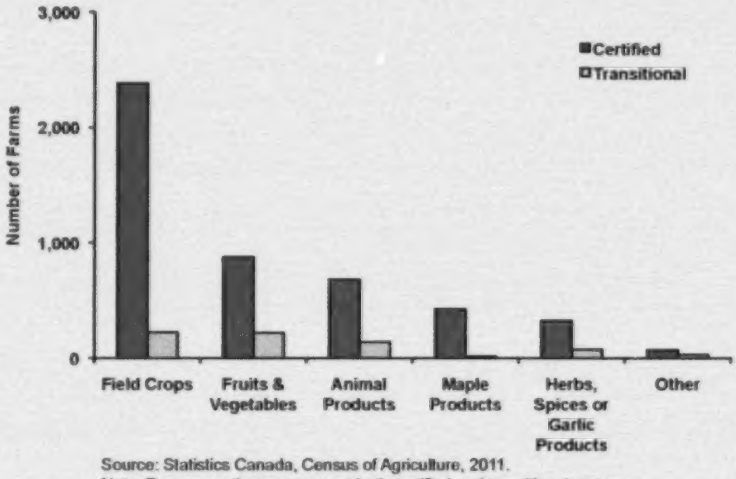
Certified organic operations represented 1.8% of all farms in Canada in 2011, up from 1.5% in 2006.

In 2009, the National Mandatory Organic Products Regulations came into effect in Canada. These regulations require mandatory certification for producers to be able to claim that their agricultural products are organic. Transitional producers are those that are in the process of certification, since producers require three years of organic production practices before they are certified.

In total, there were 3,713 certified organic operations in 2011, an increase of 4.4% from 2006.

Field crops were by far the predominant certified organic commodity, with 2,383 operations reporting organic field crops in 2011.

Chart A1.14
Farms Reporting Certified Organic or Transitional Products by Type of Crop, 2011



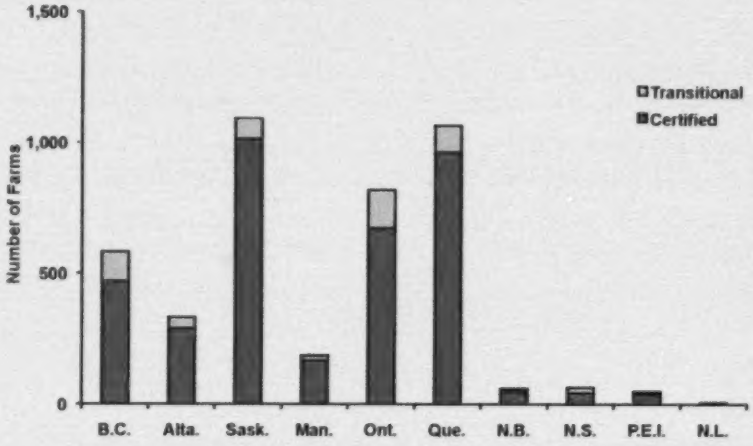
Source: Statistics Canada, Census of Agriculture, 2011.
Note: Farm operations may report both certified and transitional statuses, therefore the total does not equal the sum of the parts.

Most certified organic farms were small, and most were in Saskatchewan and Quebec

Saskatchewan and Quebec reported the greatest gains in the number of certified organic operations.

Saskatchewan reported the highest number of certified organic operations in 2011, despite a 14.1% decrease since 2006. Newfoundland and Labrador, Nova Scotia and Manitoba also showed decreases in the number of certified organic farms.

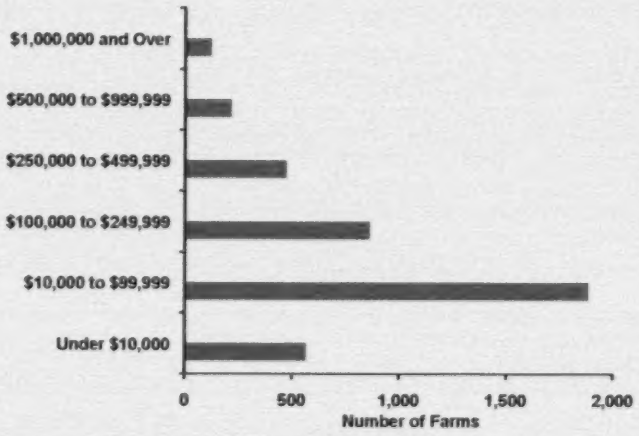
Chart A1.15
Number of Farms with Organic Production by Province, 2011



Source: Statistics Canada, Census of Agriculture, 2011.
Note: Includes tame pasture (i.e. cultivated) and marginal pasture (i.e. non-cultivated).

Most certified organic farms had less than $100,000 in total gross farm receipts in 2011. There were 1,884 small organic farms in Canada in 2011, representing 2.2% of farms with revenues under $100,000. Only 1.2% of million-dollar farms were organic.

Chart A1.16
Number of Farms with Organic Production by Revenue Class, (2010 $)
2011



Source: Statistics Canada, Census of Agriculture 2011.
Note: Includes farms with certified and/or transitional production.

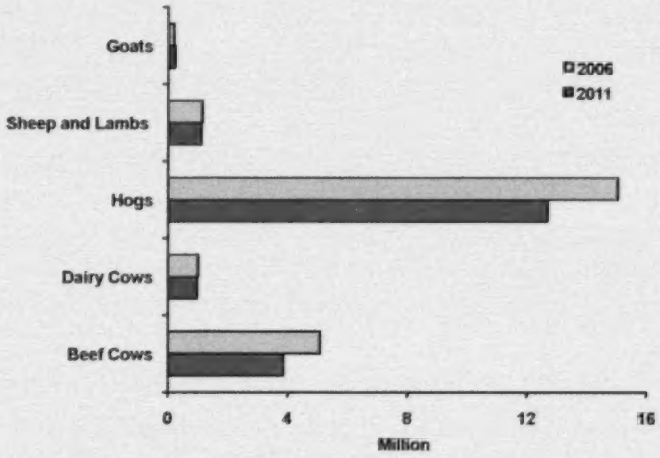
The total number of beef cows in Canada decreased by 24.2% between 2006 and 2011 due to unfavorable market conditions arising from higher feed costs, trade impediments and an appreciated dollar over the past five years.

Hog numbers decreased by 15.7% as producers left the industry. Reduced profitability in the face of a strong Canadian dollar, high feed prices and trade restrictions were responsible. The Cull Breeding Swine Program and the Hog Farm Transition Program were implemented to encourage the sector to restructure and be brought in line with market realities.

Efficiency gains in the dairy sector allowed for increased production, despite a 3.4% decrease in the overall size of the dairy herd. Quebec accounts for more than one-third of Canada's dairy cows, followed by Ontario with another one-third of the total Canadian herd.

By contrast, the number of goats increased, reflecting the emergence of niche markets to meet ethnic consumer demands.

Chart A1.17
Total Livestock by Number of Animals, 2006 and 2011



Source: Statistics Canada, Census of Agriculture, 2011.

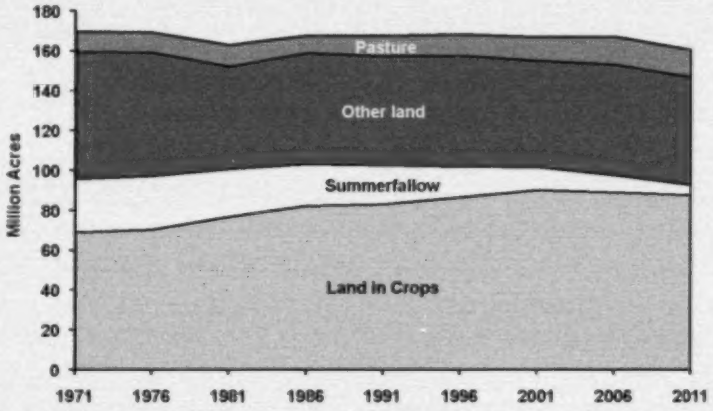
Higher crop prices, technological change and better land management practices continue to lead to reduced area in summerfallow

As total farmland area fell between 2006 and 2011, land use also changed.

Land in crops, which had been increasing since the early 1970s, remained stable in 2011, while land in pasture increased.

Summerfallow, which was a traditional rotational production practice on the Prairies, declined significantly over time as no-till production practices have become more commonplace and reduced the need to summerfallow.

Chart A1.18
Land Use*,
1971-2011



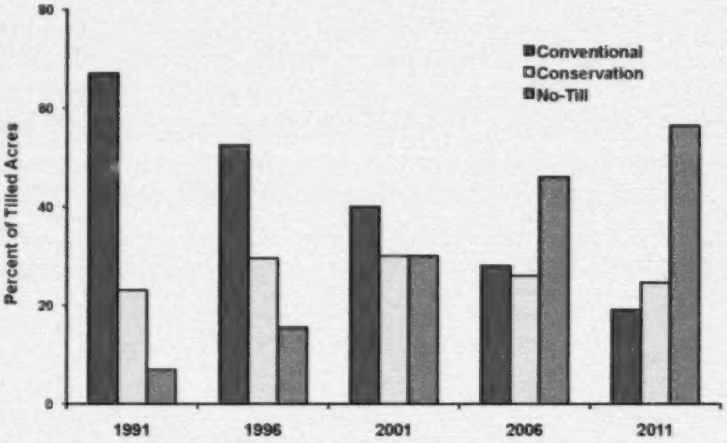
Source: Statistics Canada, Census of Agriculture, various years.
Note: *Includes Christmas tree area, natural land for pasture, woodlands and wetlands.

For the first time, no-till practices accounted for more than half of all area prepared for seeding.

No-till practices are dominant on the Prairies, where large farms and erosion-prone soil boost the financial and environmental benefits of low-impact, one-pass seeding. In addition, in Quebec, the increase in the use of no-till practices reflected government incentives that were introduced to encourage this practice over the period 2006 to 2011.

As a result, the area of land seeded using no-till seeding increased by 23.8%, and the use of summerfallow decreased by 40.2% between 2006 and 2011.

Chart A1.19
Tillage Practices,
1991-2011



Source: Statistics Canada, Census of Agriculture, various years.

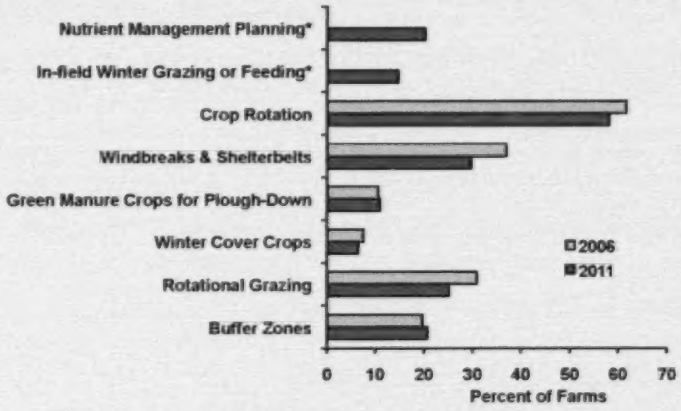
Farmers continue to make use of environmentally-friendly farm practices and traditional farm inputs such as fertilizers and pesticides

Crop rotation continues to be the most common soil conservation practice, followed by windbreaks and rotational grazing.

However, the share of farms reporting using these practices declined between 2006 and 2011. Other important soil conservation practices include rotational grazing and buffer zones.

Nutrient management planning and infield winter grazing or feeding are also becoming important.

Chart A1.20
Soil Conservation Practices, 2006 and 2011

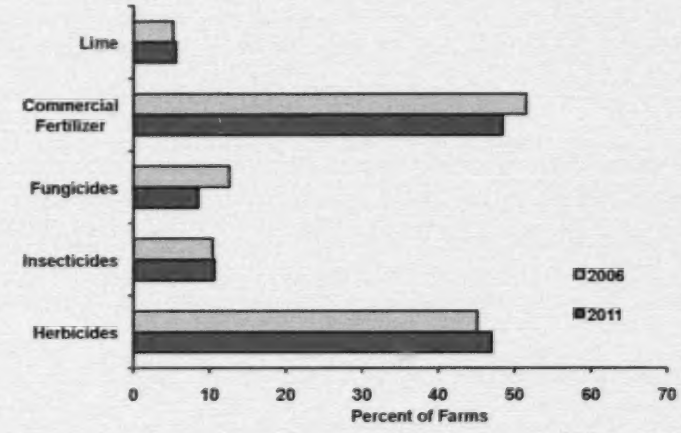


Source: Statistics Canada Census of Agriculture, 2006 and 2011.
Note: *Category not included in 2006 Census of Agriculture.

Commercial fertilizers and herbicides were the most-commonly used inputs in crop production.

Over 50% of farms reported using commercial fertilizer in 2010, down slightly from 2005. Herbicides were reported used by over 45% of farms in 2010.

Chart A1.21
Land Inputs, 2006 and 2011



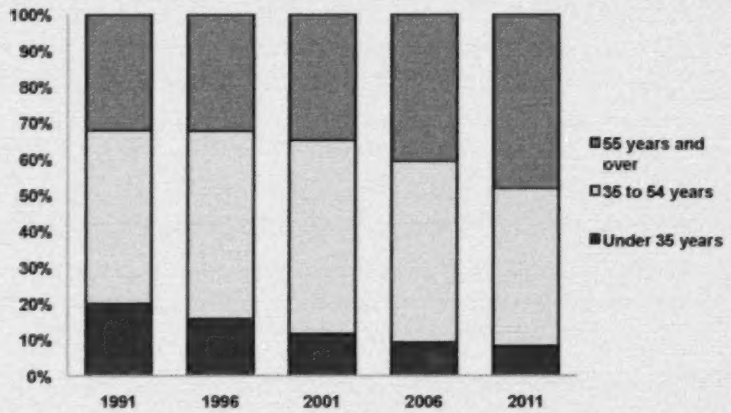
Source: Statistics Canada, Census of Agriculture, 2006 and 2011.

Almost half of farm operators were aged 55 and older in 2011, reflecting the impact of aging in the general population

This was the first time that there were more operators over 55 years of age than younger operators. This reflects the impact of the baby boom generation on agriculture. About 48.3% of operators were 55 years and over in 2011, compared to 40.7% in 2006. Only 8.2% of farm operators were under 35 years of age in 2011, down from 19.9% in 1991.

Quebec remains the province with the youngest operators, at an average age of 51. British Columbia's operators were the oldest, with the highest average age of 56.

Chart A1.22
Distribution of Operators by Age, 1991-2011



Source: Statistics Canada, Census of Agriculture, various years.

Most farms are single generation farms, but large farms tend to be multi-generational.

Only 7.6% of farms were multi-generational in 2011. However, among large farms with revenues of $1 million and over, 20.7% tended to be multi-generational.

Chart A1.23
Number of Farms by Single or Multi-Generation and Revenue Class,(2010 $)
2011

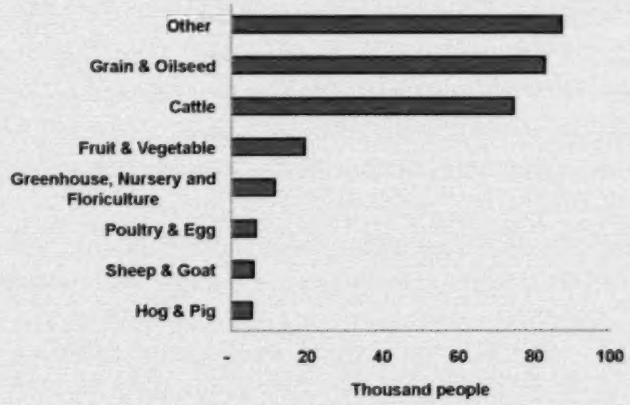
Total Gross Farm Receipts	Multi-generation	Single generation
	Number of Farms	
Under $10,000	1,746	42,208
$10,000 to $99,999	4,154	79,918
$100,000 to $249,999	2,433	29,237
$250,000 to $499,999	2,955	19,500
$500,000 to $999,999	2,559	11,418
$1,000,000 and over	1,989	7,613
All farms	15,836	189,894

Source: Statistics Canada, Census of Agriculture, 2011.
Note: Multi-generational farms are farms with more than one operator where the age difference between the oldest and youngest operator is 20 years or more.
Single generation farms are farms with more than one operator where the age difference between the oldest and youngest operator is less than 20 years.

Of the 293,930 farm operators in Canada in 2011, most worked on grain and oilseed farms

Apart from "other" farms, the greatest number of operators were on grain and oilseed farms, followed by cattle operators at 28.2% and 25.3% of the total, respectively.

Chart A1.24
Number of Operators by Farm Type, 2011



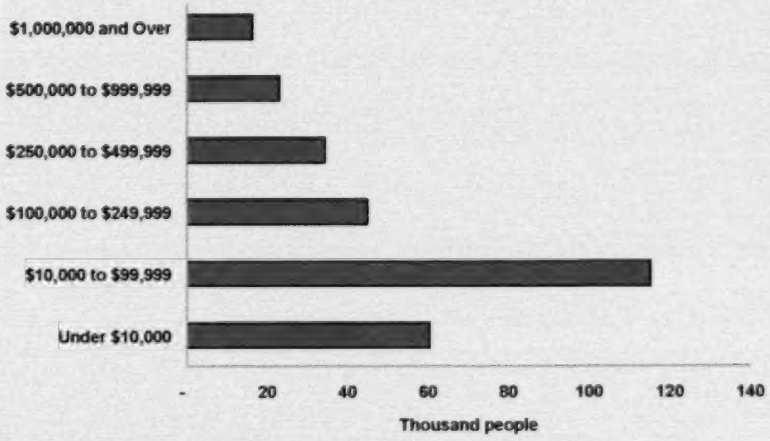
Source: Statistics Canada, Census of Agriculture, 2011.

Most farm operators operated small farms with less than $100,000 in gross farm receipts (2010 $).

More than half of farm operators in Canada (59.6%) operated small farms (with revenues between $10,000 and $99,999).

Twenty percent of operators had farms with revenues under $10,000, while 26.9% had revenues between $100,000 and $499,999. Eight percent operated farms with revenues between $500,000 and $999,999 and operators of million-dollar farms accounted for only 5.6% of the total.

Chart A1.25
Number of Operators by Revenue Class (2010 $), 2011

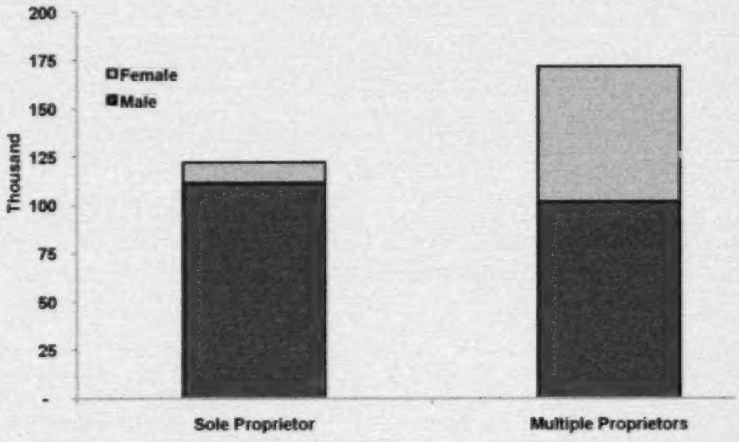


Source: Statistics Canada, Census of Agriculture, 2011.

Most sole proprietors were male, while female operators mostly operated multiple proprietorship farms

Male operators were more likely to be sole proprietors, while just over half of multiple operators were male. Only 13.3% of female operators were sole proprietors, relatively unchanged from 5 years ago.

Chart A1.26
Number of Operators by Gender and Proprietor Type, 2011



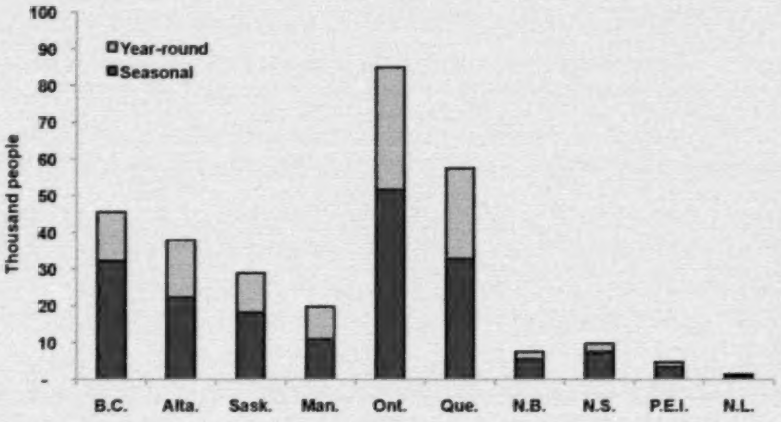
Source: Statistics Canada, Census of Agriculture, 2011.

Farms make heavy use of seasonal employment during labour-intensive periods such as harvesting

Seasonal employees accounted for almost two-thirds of all paid labour on farms in Canada in 2010.

Of the 297,683 paid employees on farms in 2010, 185,624 were seasonal. Higher proportions of seasonal employees were reported in Nova Scotia, Prince Edward Island, New Brunswick and British Columbia at 77.5%, 74.2%, 72.8% and 70.9%, respectively compared to 60.8% and 57.2% in Ontario and Quebec. These provinces have higher proportions of fruit, tree nut and potato farms and are particularly dependent on seasonal employees during harvest periods.

Chart A1.27
Paid Farm Employment by Province, 2010



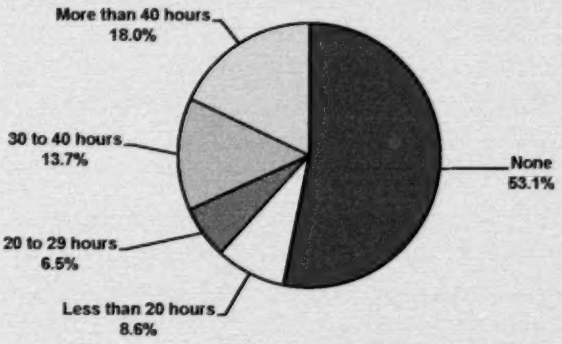
Source: Statistics Canada, Census of Agriculture, 2011.

In 2010, 46.9% of operators worked off the farm, while 53.1% did not.

This is down from 48.4% in 2005. The proportion of operators working less than 20 hours a week off the farm, on average, decreased from 9.3% in 2005 to 8.6% in 2010.

The proportion of farm operators working more than 40 hours per week off the farm was 18.0% in 2010, down from 20.2% in 2005.

Chart A1.28
Distribution of Farm Operators by Hours Worked Off the Farm per Week,
2010

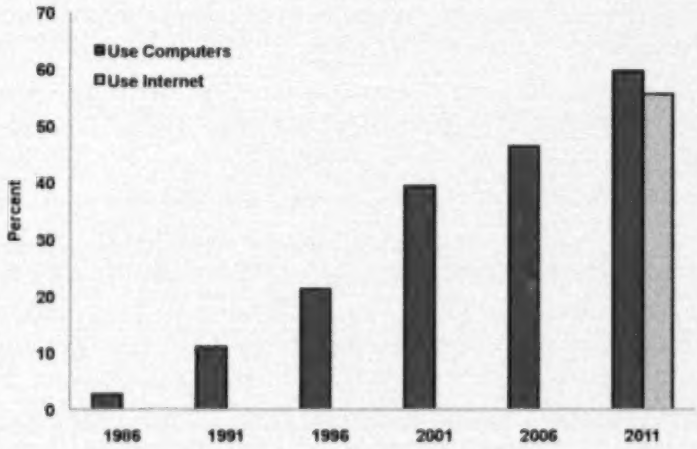


Source: Statistics Canada, Census of Agriculture, 2011.

In 2011, more than half (59.6%) of all farms reported using a computer in the management of their business. This is higher than the almost 50% in 2006.

More than half of all farms (55.6%) used the internet and almost half of these (44.8%) had high speed internet access. Across the country, access to high speed internet ranged from 40.6% in Quebec to 49.5% in Prince Edward Island.

Chart A1.29
Percent of Farms Reporting Computer Use, 1986-2011



Source: Statistics Canada, Census of Agriculture, various years.

SECTION A2

Global Context for 2011

Introduction:

Global context provides a backdrop for understanding developments in the Canadian agriculture and agri-food system in 2011. While world economies recovered from the recession of 2009 and 2010, GDP growth in major developed countries remained fragile and below that of emerging economies. Crude oil and other commodity prices rebounded once again in the face of these growing global demand pressures, particularly from China and India. This put upward pressure on farm input and raw material costs. As commodity prices rose, Canada's exchange rate appreciated, impacting the sector's competitiveness in global markets.

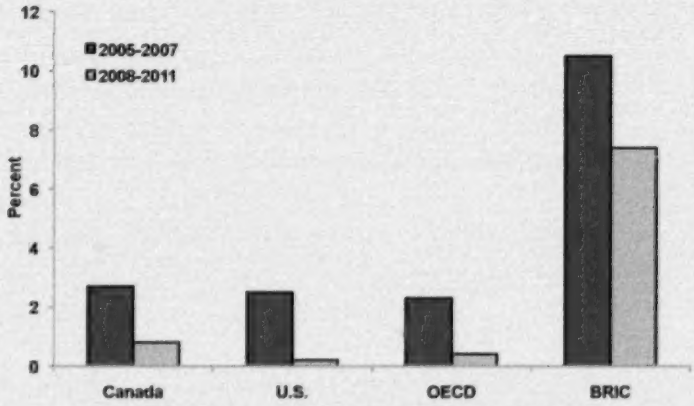
Global economic growth resumed in 2011, with the Organisation for Economic Cooperation and Development (OECD) economies growing more slowly than the emerging economies of Brazil, Russia, India and China (BRIC)

Economies of OECD countries recovered more slowly from the global economic recession than the emerging (BRIC) economies.

Economic growth averaged 7.4% in BRIC economies between 2008 and 2011. This compares to an average growth of 0.4% for OECD countries over the same period.

On average, the Canadian economy grew by 2.7% per year between 2005 and 2007, and 0.8% between 2008 and 2011. In comparison, the U.S. economy grew by 2.5% per year, and 0.2% over the two periods.

Chart A2.1
Average Annual GDP Growth in OECD and BRIC Economies, 2005-2011

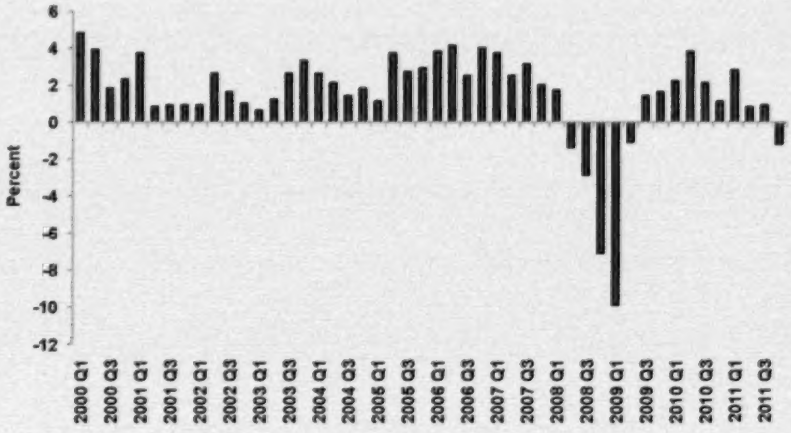


Source: OECD-FAO Agricultural Outlook, 2012-2021 and AAFC calculations.
Note: Canada and the U.S. are included in the OECD figures.

The sovereign debt crisis in some EU countries affected the region's economic growth, which slowed considerably in the last quarter of 2011.

After recovering in 2010 and early 2011 from a period of economic contraction in 2008 and 2009, economic growth in the EU once again turned negative in the fourth quarter of 2011.

Chart A2.2
Percent Growth* in EU Real GDP, 2000 Q1-2011 Q4



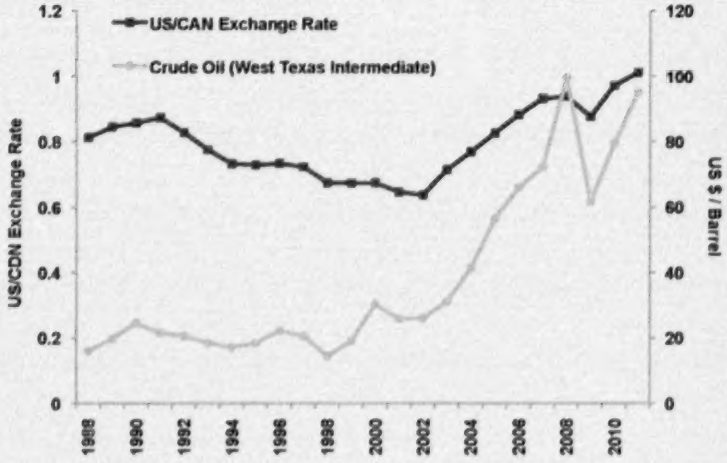
Source: Eurostat
Note: * Annualized percentage change on previous year.

Prices of crude oil and other commodities rose once again in 2011 in the face of increased global demand and reduced supplies, putting upward pressure on the Canadian dollar

Rising crude oil prices in 2011 coincided with the Canadian dollar appreciating relative to the U.S. dollar.

Canada is a major exporter of oil and other commodities. Greater global demand for oil and other commodities thus contributed to a strengthening of the Canadian dollar relative to the U.S. dollar.

Chart A2.3
U.S.-Canadian Dollar Exchange Rate and the Price of Crude Oil, 1988-2011



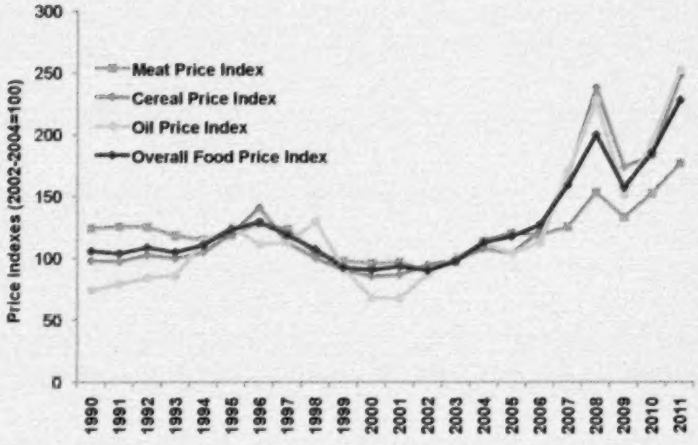
Source: Bank of Canada via Statistics Canada; IMF Primary Commodities Database.

Rising global demand and supply constraints on other commodities that Canada produces also led to higher prices.

World prices rose across a broad range of agricultural commodities between 2010 and 2011. Meat prices rose by 16%, cereal prices by 35% and vegetable oil prices by 30%.

The overall FAO Food Price Index increased by 23% between 2010 and 2011.

Chart A2.4
World Food Commodity Price Indexes, 1990-2011



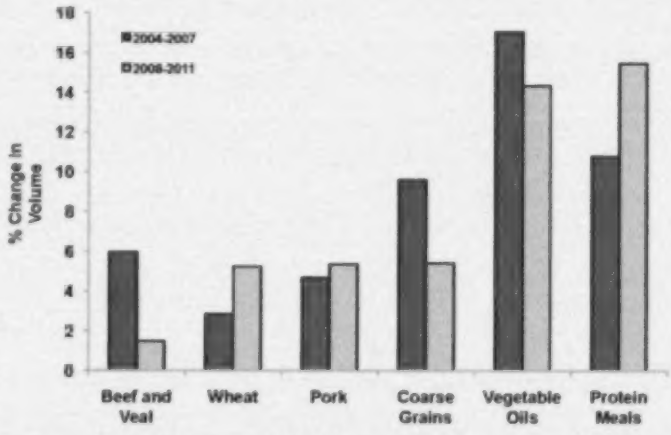
Source: FAO, Food Price Index.

The value of world trade in agriculture and agri-food products grew for the second year in a row since the economic recession of 2009

Global consumption of major agricultural products continued to grow.

The pace of growth in world consumption of wheat, pork and protein meals increased over recent years, while the pace of growth in consumption of beef and veal, coarse grains and vegetable oils slowed.

Chart A2.5
Percent Growth in Global Consumption of Selected Commodities,
2004-2007 and 2008-2011

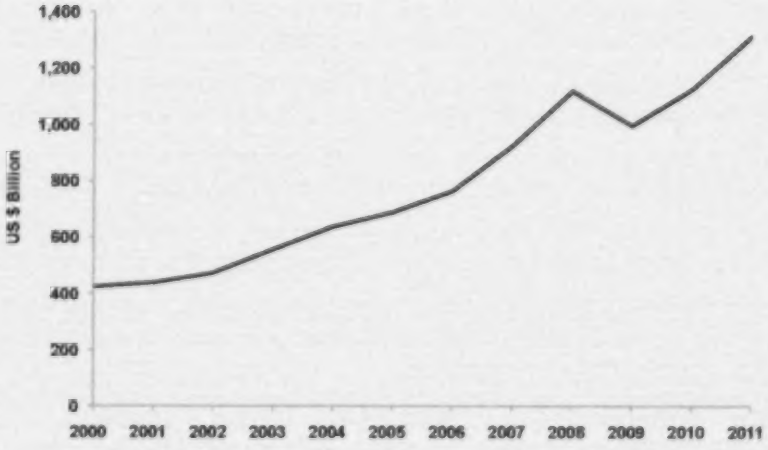


Source: OECD-FAO Agricultural Outlook, 2012-2021 and AAFC calculations.

With higher global prices and growing consumption, the value of world trade in agriculture and agri-food products in 2011 continued to rebound from the 2009 downturn.

World trade in agriculture and agri-food products reached $1.3 trillion (US $) in 2011 after declining to $995 billion (US $) in 2009.

Chart A2.6
World Agriculture and Agri-Food Trade,
2000-2011

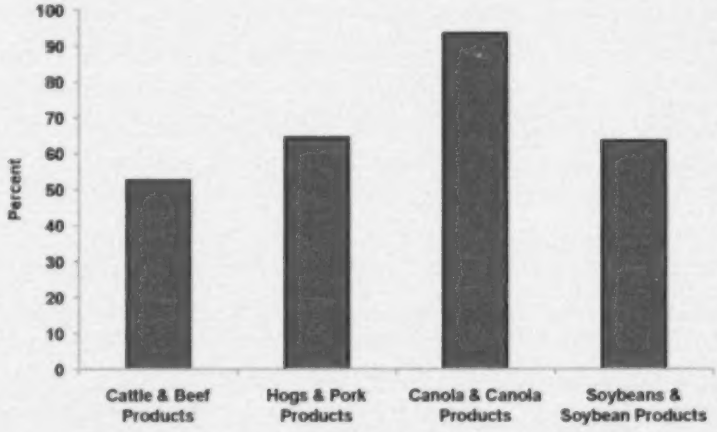


Source: Global Trade Atlas.

Agriculture and agri-food product exports are comprised of primary commodities, such as wheat, canola or live animals and of further processed products, such as flour, canola oil or meat which are highly export focused.

On a quantity basis over the 2008 to 2010 period, 53% of cattle and beef products, 65% of hogs and pork products, 93% of canola and canola products and 63% of soybeans and soybean products were exported.

Chart A2.7
Export Shares of Primary Commodities and Processed Products, Quantity-Based, Average, 2008-2010

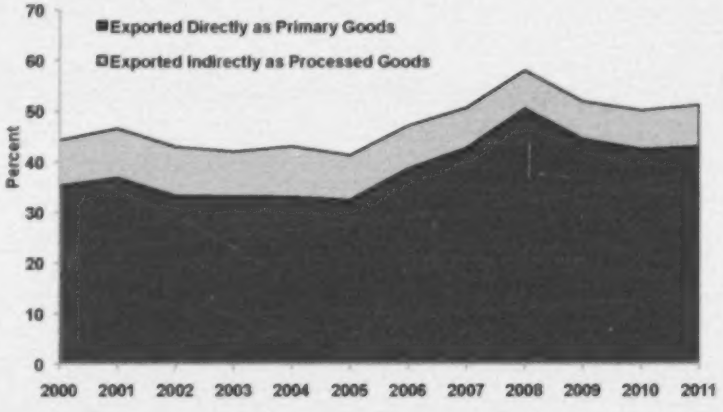


Source: AAFC.

On a value basis, it is estimated that approximately half of the value of primary agricultural production in Canada is exported, either directly as primary agricultural commodities or indirectly as processed food and beverage products.

The proportion exported peaked in 2008 at approximately 58% of the value of farm market receipts, when world prices of grain and oilseed products increased significantly.

Chart A2.8
Estimated Share of Agricultural Production that is Exported, Value Basis, 2000-2011



Source: AAFC.

SECTION B

The Agriculture and Agri-Food System and the Canadian Economy

SECTION B1

GDP and Employment

Introduction:

The Canadian agriculture and agri-food system is a complex and integrated supply chain of importance to the Canadian economy. It makes significant direct and indirect contributions to Canadian Gross Domestic Product (GDP) and employment, and its importance varies by province.

Since 1997, GDP system growth has been positive but has slowed down in more recent years, particularly after the economic recession of 2009, and stabilized in 2011. Employment growth, however, resumed in most components of the agriculture and agri-food system in 2011.

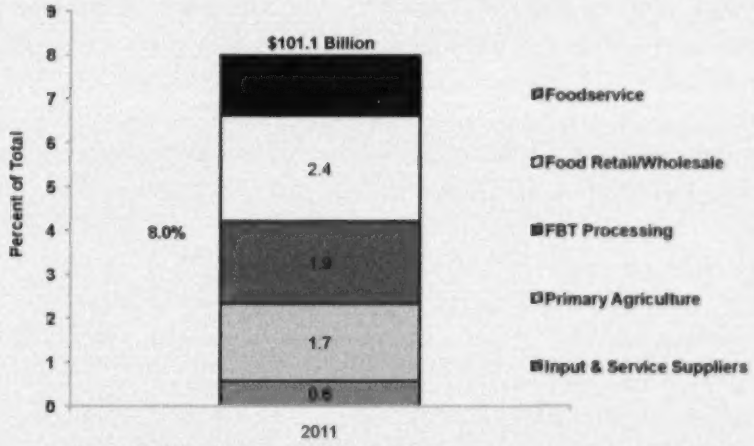
Employment in food, beverage and tobacco (FBT) processing and foodservice was up, while that in food retail was down.

The Canadian AAFS, which includes farm input and service suppliers, primary agriculture, food and beverage processing, food retail/wholesale and foodservice industries, accounted for 8.0% of total Canadian Gross Domestic Product (GDP) in 2011 at $101.1 billion.

It is the third-largest contributor to national GDP after the finance sector and non-food manufacturing industries.

In 2011, the food retail/wholesale industry accounted for the largest share of the agriculture and agri-food system's GDP, representing 2.4% of total Canadian GDP or $30.3 billion (chained 2002 $). This was followed by food, beverage and tobacco processing at 1.9% of the total ($24 billion). This share was down slightly from 2010. Primary agriculture continues to account for 1.7% of national GDP at $22.2 billion in 2011, while input suppliers accounted for another 0.6%, also unchanged since 2010 at $7.2 billion. Foodservice at $17.4 billion, accounted for the remainder at 1.4% of total GDP.

Chart B1.1
Agriculture and Agri-Food System's Contribution to GDP, 2011

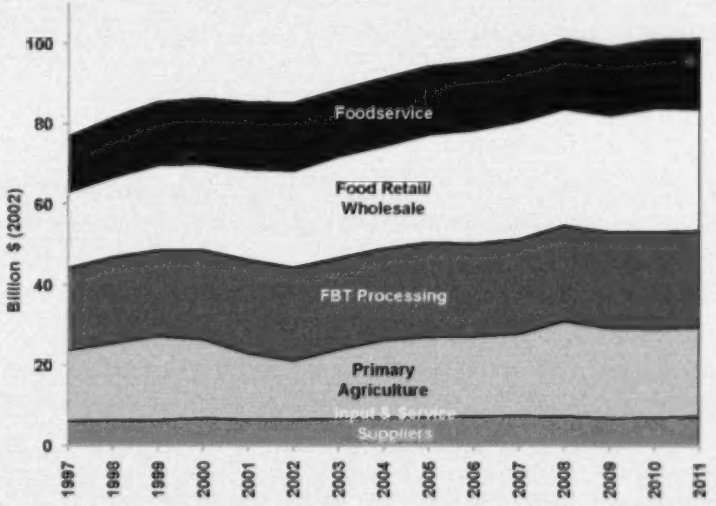


Source: Statistics Canada and AAFC calculations.
Note: *2011 data is preliminary.

Since the recession of 2009, the overall agriculture and agri-food system has been growing at a fairly steady rate compared to a recent slowdown in the overall economy.

In 2011, the system's GDP remained relatively stable compared to 2010, growing by a mere 0.2%. Farm input and service suppliers and foodservice GDP grew strongly, up 5.1% and 2.4%, respectively. This was offset by a decline in FBT processing (-0.5%) and food retailing (-1.5%) GDP. Primary agriculture GDP remained relatively unchanged between 2010 and 2011, reflecting a slowdown in crop production on the Prairies.

Chart B1.2
Agriculture and Agri-Food System's Contribution to GDP 1997-2011



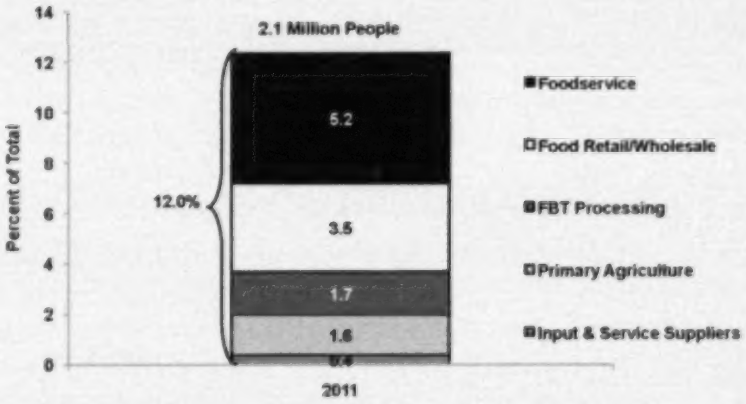
Source: Statistics Canada and AAFC calculations.
Note: 2010 data is preliminary.

In 2011, the Canadian agriculture and agri-food system provided one in eight jobs, employing over 2.1 million people, to account for 12.0% of total Canadian employment.

Primary agriculture and food, beverage and tobacco processing accounted for 1.6% and 1.7% of employment in Canada, employing 279,800 and 292,000 workers, respectively in 2011. The share for primary agriculture was down slightly from 2010.

Foodservice was the largest contributor, at 5.2%, followed by the food retail/wholesale sector at 3.5%, with 897,700 and 605,800 workers, respectively in 2011.

Chart B1.3
Agriculture and Agri-Food System's Contribution to Employment, 2011

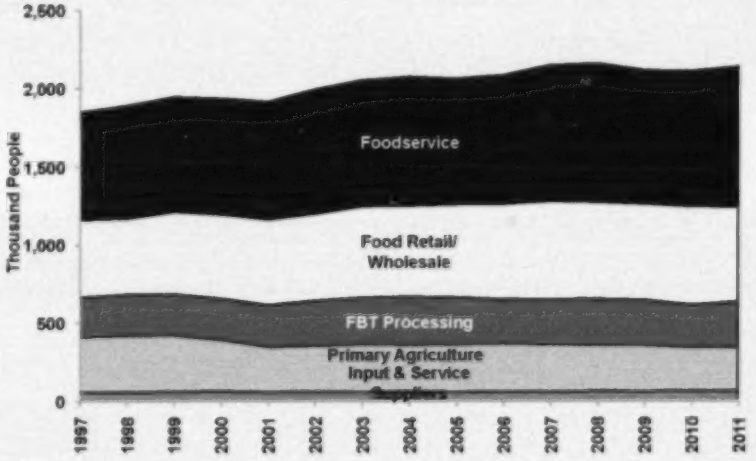


Source: Statistics Canada and AAFC Calculations.

Over time, employment in the agriculture and agri-food system has been increasing by about 1.1% per year, amounting to a 16% increase from 1997 levels. By comparison, overall employment in Canada grew by 26% over the period 1997 to 2011.

Employment in primary agriculture and FBT processing were both up in 2011 over the previous year by 0.8% and 6.9%, respectively. Employment in foodservice was also up by 3.5% between 2010 and 2011. Employment in food retail/wholesale was down, on the other hand, by 3.6%.

Chart B1.4
Agriculture and Agri-Food System's Contribution to Employment 1997-2011



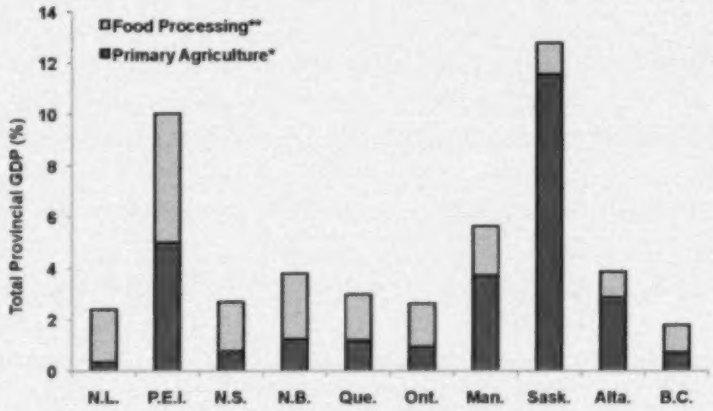
Source: Statistics Canada and AAFC calculations.

The agriculture and agri-food sector is an important source of economic activity in most provinces

In terms of contribution to provincial GDP, agriculture and food processing play the largest role in Saskatchewan and Prince Edward Island, accounting for 12.8% and 10.0% of provincial GDP, respectively, in 2011.

The mix between primary agriculture and food processing also varies across provinces. East of Manitoba (except for Prince Edward Island) and in British Columbia, food processing accounts for the larger share of provincial GDP.

Chart B1.5
Agriculture and Food Processing's Contribution to Provincial GDP,
2011*

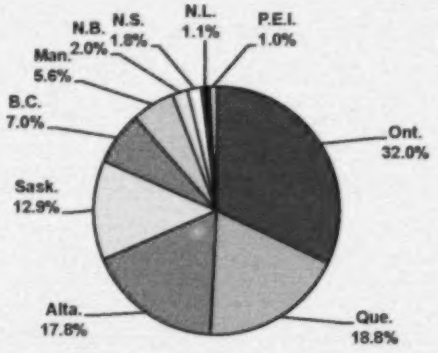


Source: Statistics Canada and AAFC calculations.
Note: ** Excludes beverage and tobacco processing.
*2011 data is preliminary.

Just over half of the total Canadian agriculture and food processing sector GDP takes place in Ontario and Quebec.

In 2011, Ontario accounted for the largest share of Canadian agriculture and food processing GDP at 32%, while Quebec accounted for 18.8% and Alberta, 17.8%.

Chart B1.6
Provincial Distribution of Canadian Agriculture and Food Processing GDP,
2011*



Source: Statistics Canada and AAFC calculations.
Note: Excludes beverage and tobacco processing.
* 2011 data is preliminary.

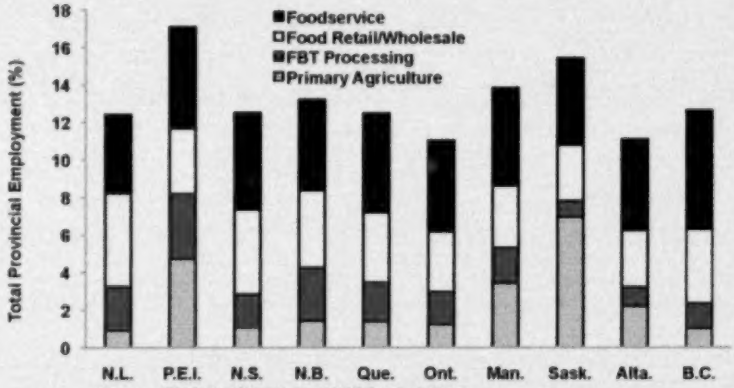
The agriculture and agri-food system is also a major employer in most provincial economies

In 2011, the agriculture and agri-food system accounted for the largest share of provincial employment in Prince Edward Island and Saskatchewan at 17.1% and 15.4%, respectively.

In most provinces, employment in foodservice accounts for the largest share of total employment in the agriculture and agri-food system, followed by food retailing/wholesaling.

The exception was Saskatchewan, where primary agriculture accounted for the largest share of provincial employment (6.9%). In Prince-Edward-Island and Manitoba, primary agriculture was the second most important employer after foodservice.

Chart B1.7
Agriculture and Agri-Food System's Share of Provincial Employment,
2011*



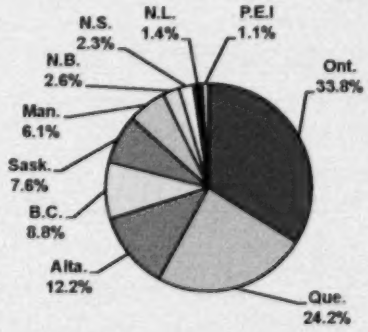
Source: Statistics Canada and AAFC calculations.
Note: Provincial input & service suppliers have been excluded because of confidentiality with many of its component industries.
*2011 data is preliminary.

Ontario and Quebec employed the largest shares of the Canadian agriculture and food processing workforce.

In 2011, Ontario and Quebec accounted for 33.8% and 24.2%, respectively of the total Canadian agriculture and food processing workforce, followed by Alberta, at 12.2%.

The total number of employees in the agriculture and food processing sector increased by 3.3% in 2011 compared to 2010. Growth in employment fluctuated between provinces, with the largest increase occurring in Newfoundland and Labrador, at 12.2% and the largest decrease in British Columbia, at 11.1%.

Chart B1.8
Provincial Distribution of Canadian Agriculture and Food Processing Employment,
2011*



Source: Statistics Canada and AAFC calculations.
Note: Excludes beverage and tobacco processing.
* 2011 data is preliminary.

SECTION B2

International Trade

Introduction:

Canadian import and export values of agriculture and agri-food products were higher in 2011 than in 2010. The increase in Canadian trade values was partly due to higher import and export prices, up from 2010. While the U.S. continues to be Canada's most important trading partner, exports to non-U.S. markets have grown considerably since the mid-2000s. With regard to imports, Canadian consumers continue to have access to a wider range of products than those produced domestically, a fact highlighted by the diversity of imports in 2011.

Note: Canadian import and export data in this chapter is current as of May 2012 and is continually revised. Therefore values may differ depending on the source, data and/or definition used.

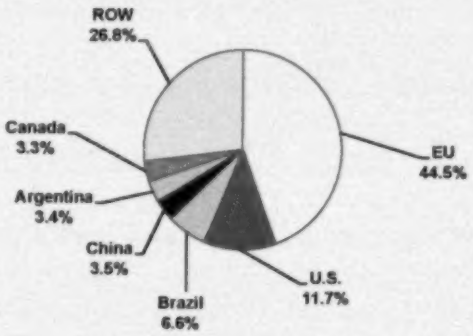
Canada is an important player in the international trade of agriculture and agri-food products

Canada, with export sales of $40.3 billion, accounted for 3.3% of the total value of world agriculture and agri-food exports in 2011.

Canada was the sixth-largest exporter after the EU, the U.S., Brazil, China and Argentina in 2011.

Argentina overtook Canada as the world's fifth-largest agriculture and agri-food exporter in 2011.

Chart B2.1
World Agriculture and Agri-Food Export Share by Country of Origin, 2011

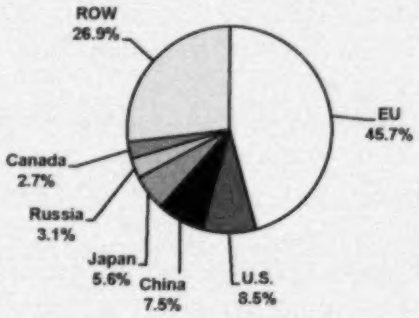


Source: Global Trade Atlas and AAFC calculations.
Notes:1) Excludes All Seafood - Fresh and Processed.
2) Includes Intra-EU Trade.

With $31.0 billion in imports, Canada accounted for 2.7% of the total value of world agriculture and agri-food imports in 2011.

Canada was the world's sixth-largest importer after the EU, the U.S., China, Japan and Russia.

Chart B2.2
World Agriculture and Agri-Food Import Share by Country of Destination, 2011



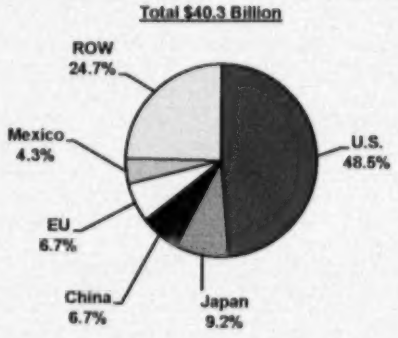
Source: Global Trade Atlas and AAFC calculations.
Notes:1) Excludes All Seafood - Fresh and Processed.
2) Includes Intra-EU Trade.

The U.S. continues to be Canada's most important agriculture and agri-food export destination, although other markets are growing in importance

In 2011, the U.S. purchased 48.5% of the value of all Canadian agriculture and agri-food exports.

Japan, China, the EU and Mexico accounted for an additional one-quarter of Canadian exports. One hundred and sixty-five countries accounted for the remainder of export sales.

Chart B2.3
Destinations of Canadian Agriculture and Agri-Food Exports, 2011

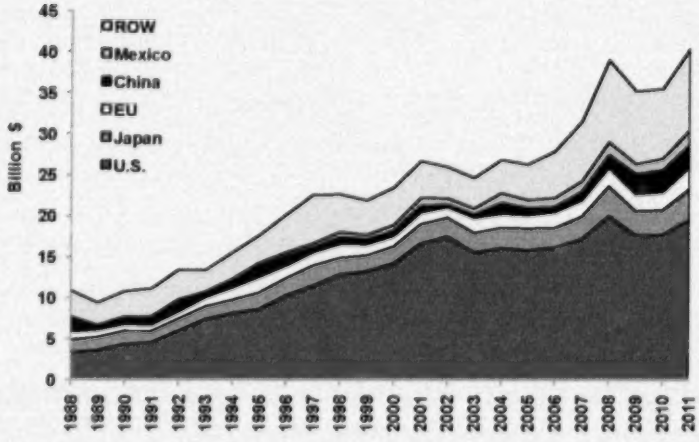


Source: Statistics Canada and AAFC calculations.

Canadian export sales values grew by 14% from 2010 to 2011 due to an increase in exports to both U.S. and non-U.S. markets.

Exports to the U.S. grew to $19.5 billion in 2011, a 481% increase since 1988. Exports to non-U.S. markets increased 178% over the same period to reach $20.8 billion.

Chart B2.4
Destinations of Canadian Agriculture and Agri-Food Exports, 1988-2011

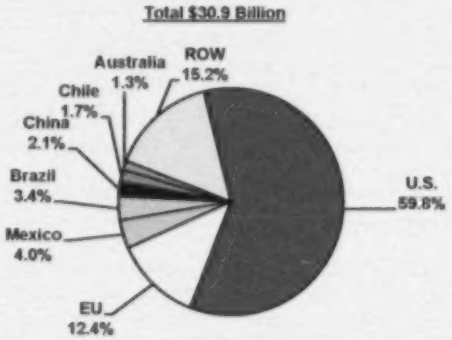


Source: Statistics Canada and AAFC calculations.

The U.S. accounted for 59.8% of the value of Canadian agriculture and agri-food imports in 2011.

The EU, Mexico, Brazil, China, Chile and Australia together accounted for roughly one-quarter of Canadian import sales, followed by 15.2% for the rest of the world.

Chart B2.5
Origins of Canadian Agriculture and Agri-Food Imports, 2011



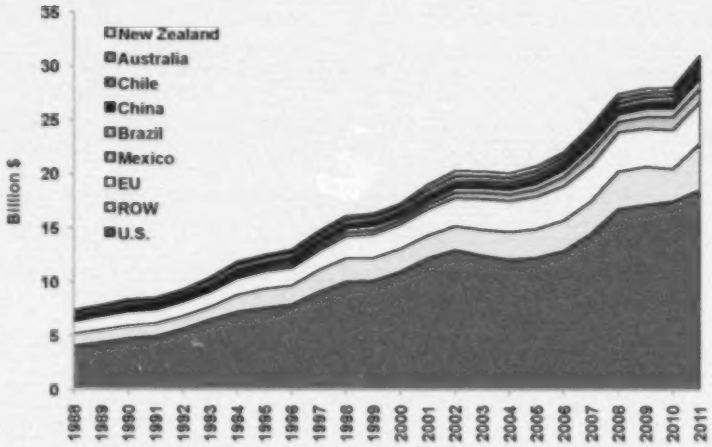
Source: Statistics Canada and AAFC calculations.

Imports from the U.S. grew from $4.0 billion in 1988 to $18.5 billion (363%) in 2011 and averaged roughly 60% of the total for most of this period.

The EU is also an important source of imports, with the value of imports tripling as well between 1988 and 2011 to $3.8 billion.

Nearly half of the value of imports from the EU in 2011 was accounted for by alcoholic beverages, including wine and beer. Imports from the U.S. were much more varied and included all agriculture and agri-food products.

Chart B2.6
Origins of Canadian Agriculture and Agri-Food Imports, 1988-2011



Source: Statistics Canada and AAFC calculations.

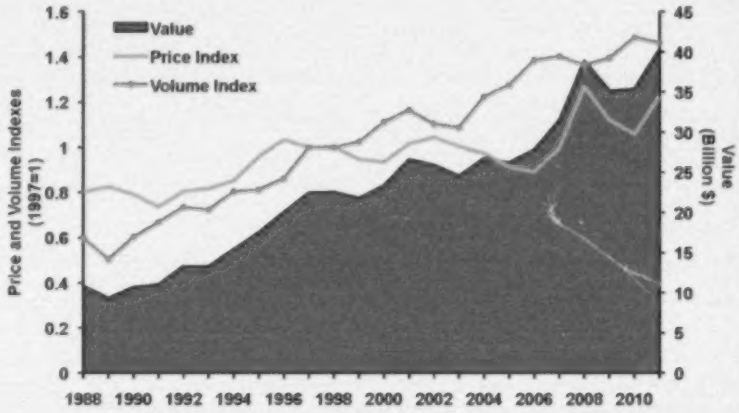
Both Canadian agriculture and agri-food import and export values were up in 2011 due to higher prices

Export values of Canadian agriculture and agri-food products rose from $10.9 billion in 1988 to $40.3 billion in 2011 (up 271%).

This is a $4.6 billion increase from the $35.7 billion reported in 2010.

Higher export prices offset lower export volumes, leading to an overall increase in the value of exports in 2011.

Chart B2.7
Canadian Agriculture and Agri-Food Exports (Price and Volume Indexes), 1988-2011

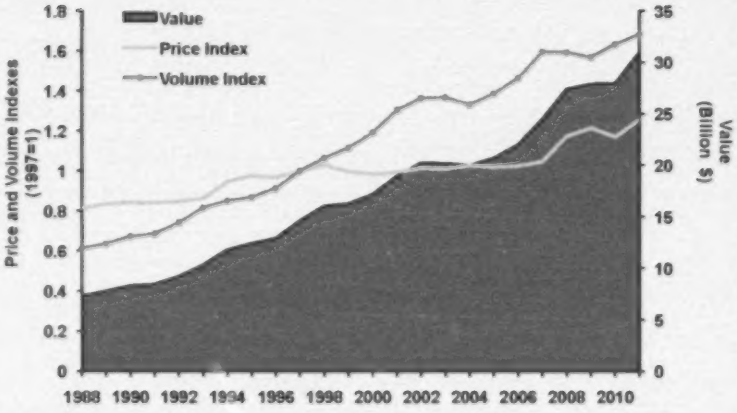


Source: Statistics Canada and AAFC calculations.

The total value of agriculture and agri-food imports grew steadily, from $7.3 billion in 1988 to $31.0 billion in 2011 (up 322%).

Both import prices and import volumes increased between 2010 and 2011, yielding an overall increase in the value of imports, up from $27.9 billion in 2010.

Chart B2.8
Canadian Agriculture and Agri-Food Imports (Price and Volume Indexes), 1988-2011



Source: Statistics Canada and AAFC calculations.

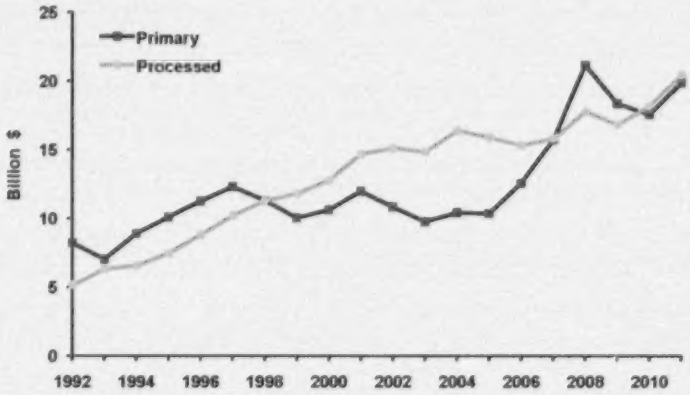
While trade in processed food products has grown steadily over time, growth in export values of primary agriculture products resumed in 2011

Canadian exports of primary agriculture products increased from $8.2 billion to $19.9 billion between 1992 and 2011. The 2011 value was up from the $17.5 billion reported in 2010, but below the $21.1 billion reported in 2008, when global commodity prices peaked.

Exports of processed products increased from $5.2 billion in 1992 to $20.4 billion in 2011. This was an increase from the $18.2 billion reported in 2010.

After two years of decline, the value of primary product exports grew in 2011 at roughly the same pace as the export value of processed products.

Chart B2.9
Canadian Exports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2011



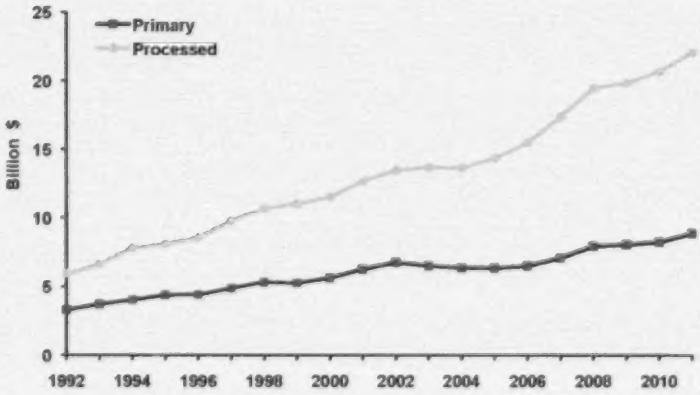
Source: Statistics Canada and AAFC calculations.

The value of processed imports has grown at a faster pace than that of primary imports over the past two decades.

Imports of processed products to Canada rose from $6.0 billion in 1992 to $22.1 billion in 2011, which was an increase from the $20.7 billion reported in 2010.

Import sales of primary products rose from $3.3 billion to $8.9 billion between 1992 and 2011. The 2011 value was up from the $8.2 billion reported in 2010.

Chart B2.10
Canadian Imports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2011



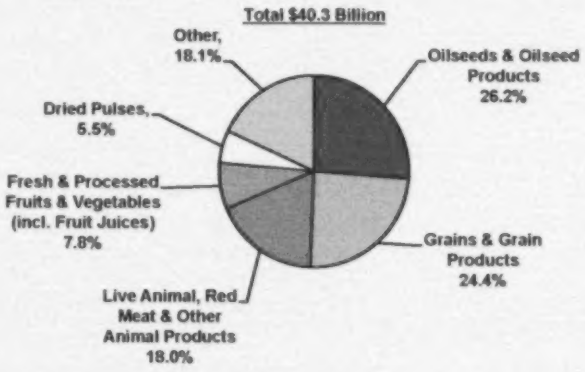
Source: Statistics Canada and AAFC calculations.

Over two-thirds of all Canadian agriculture and agri-food exports fall into three main commodity groupings

Of the $40.3 billion in Canadian agriculture and agri-food exports in 2011, oilseeds and oilseed products accounted for 26.2%, followed by grains and grain products at 24.4% and live animals, red meats and other animal products at 18.0%.

Other important export categories included fresh and processed fruits and vegetables (including fruit juices) (7.8%) and dried pulses (5.5%).

Chart B2.11
Commodity Composition of Canadian Agriculture and Agri-Food Export Sales,
2011


Total $40.3 Billion
Other, 18.1%
Oilseeds & Oilseed Products 26.2%
Dried Pulses, 5.5%
Fresh & Processed Fruits & Vegetables (incl. Fruit Juices) 7.8%
Grains & Grain Products 24.4%
Live Animal, Red Meat & Other Animal Products 18.0%

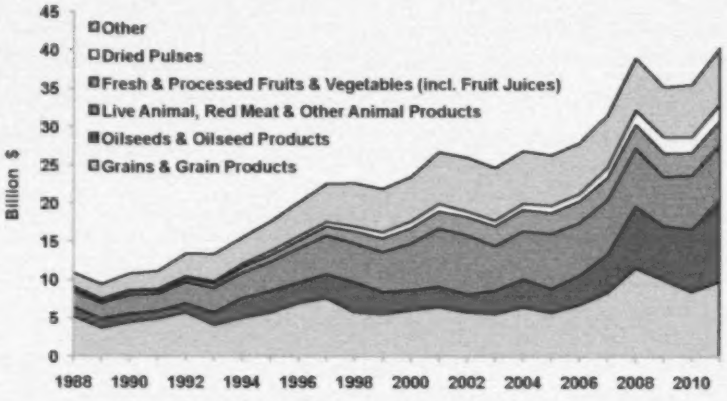
Source: Statistics Canada and AAFC calculations.

There has been considerable diversification away from grains and grain products over the past two decades.

In 2011, for example, grains and grain products accounted for roughly one-quarter of the value of all Canadian agriculture and agri-food exports, compared to nearly half in 1998.

The value of oilseeds and oilseed product exports grew 770% between 1988 and 2011 to $10.6 billion, with most of this growth occurring since 2006. The export value of dried pulses, which totalled $2.2 billion in 2011, increased 1300% over the same period while exports of fresh and processed fruits and vegetables increased 600% to $3.1 billion.

Chart B2.12
Commodity Composition of Canadian Agriculture and Agri-Food Export Sales,
1988-2011



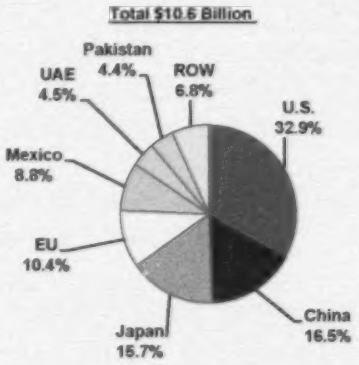
Source: Statistics Canada and AAFC calculations.

The export value of oilseeds and oilseed products increased in 2011, with sales to the U.S. increasing significantly from 2010

The U.S., China and Japan were Canada's largest export markets for oilseeds and oilseed products in 2011, accounting for 32.9%, 16.5% and 15.7% of the value of these export sales, respectively.

The largest items in this category included canola (43%), canola oil (29%), soybeans (14%) and oilcakes and meals (7%).

Chart B2.13
Canadian Oilseeds and Oilseed Product Exports by Country of Destination, 2011



Source: Statistics Canada and AAFC calculations.

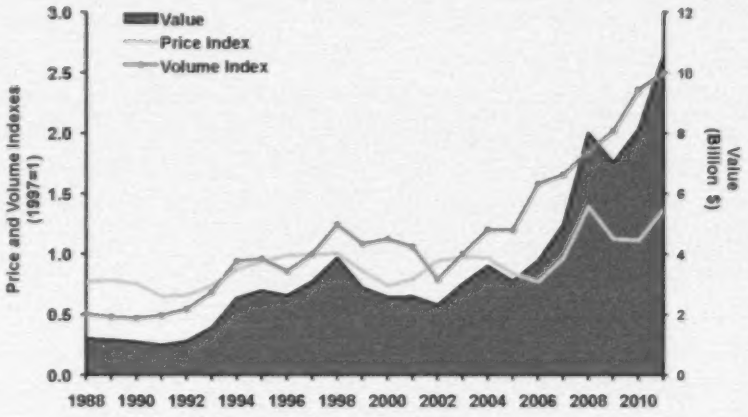
The value of oilseeds and oilseed product exports increased from $8.1 billion in 2010 to $10.6 billion in 2011.

Export values grew at a faster pace in 2011 than the year prior, due to a combination of higher prices and export volumes.

Exports to the U.S. grew from $2.1 billion in 2010 to $3.5 billion in 2011. Exports to China declined over the same period from $2.0 billion to $1.7 billion, as a result of a ban on Canadian exports of canola seed into China in 2011.

Relatively rapid growth in export volumes over much of the past decade, together with higher prices since 2006, contributed to the growth in export values over time. Export volumes almost quadrupled since 2002.

Chart B2.14
Canadian Oilseeds and Oilseed Product Exports, Price and Volume Indexes, 1988-2011

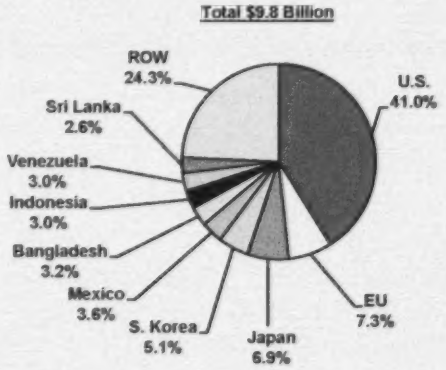


Source: Statistics Canada and AAFC calculations.

Canadian grains and grain products are exported to a very diverse set of markets. The U.S. was the major market, accounting for 41.0% of export sales, followed by the EU (7.3%), Japan (6.9%) and South Korea (5.1%).

Non-durum wheat accounted for 47% of the total value of grains and grain product exports in 2011, the same share as a year prior. The durum wheat export share increased from 8% to 11% between 2010 and 2011. The export share of baked goods, such as biscuits, pastries and bread decreased from 17.2% in 2010 to 15.7% in 2011.

Chart B2.15
Canadian Grains and Grain Product Exports by Country of Destination, 2011

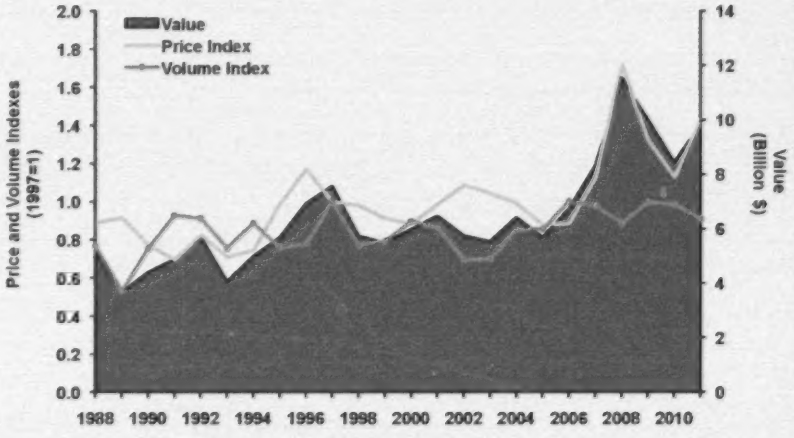


Source: Statistics Canada and AAFC calculations.

The export value of grains and grain products grew from $8.4 billion in 2010 to $9.8 billion in 2011 with higher export prices offsetting lower export volumes.

The value of exports in 2011 was below the peak of $11.5 billion in 2008, but still high relative to previous years.

Chart B2.16
Canadian Grains and Grain Product Exports, Price and Volume Indexes, 1988-2011

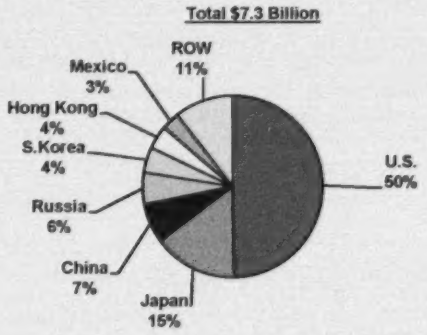


Source: Statistics Canada and AAFC calculations.

The U.S. was Canada's largest export market for these products in 2011, accounting for about 50% of export sales. This was followed by Japan (15.0%), China (7.1%), Russia (5.6%) and South Korea (4.5%).

The largest items in this category were fresh and frozen pork (36.2%), fresh and frozen beef (16.4%) and non-dairy cattle (11.7%).

Chart B2.17
Canadian Live Animal, Red Meat and Other Animal Product Exports by Country of Destination, 2011

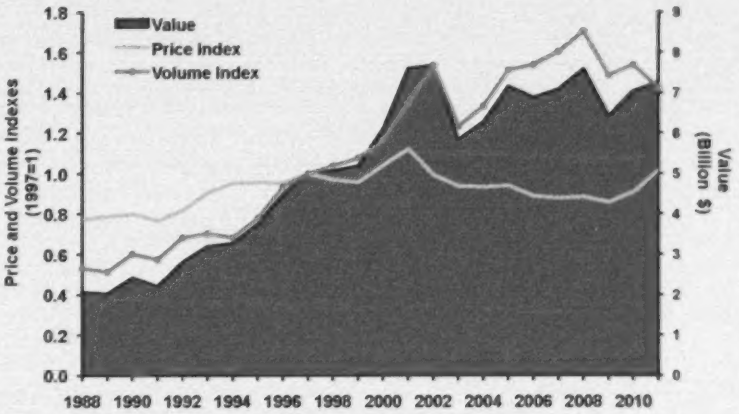


Source: Statistics Canada and AAFC calculations.

In general, higher export prices in 2011 offset lower export volumes for live animal, red meat and other animal products. As a result, export values increased from $7.1 billion in 2010 to $7.3 billion in 2011. This was below the peak of $7.7 billion in 2002.

Greater volatility in export volumes in the past decade can be explained by trade impediments, such as border restrictions on the flow of live cattle to the U.S. in 2003 due to Bovine Spongiform Encephalopathy (BSE), and a reduction in exports to the U.S. in 2008 with the introduction of Country of Origin Labeling (COOL), as well as an appreciation of the Canada-U.S. exchange rate since 2008.

Chart B2.18
Canadian Live Animal, Red Meat and Other Animal Product Exports, Price and Volume Indexes, 1988-2011

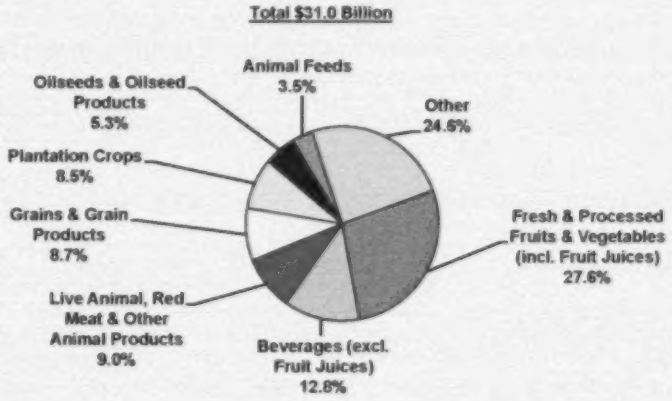


Source: Statistics Canada and AAFC calculations.

Due to the seasonal nature of fruit and vegetable production in Canada, imports of fresh and processed fruits and vegetables accounted for 27.6% of the total value of Canadian agriculture and agri-food imports in 2011.

Beverages (12.8%) and live animals, red meat and other animal products (9.0%) were the next largest categories by import value.

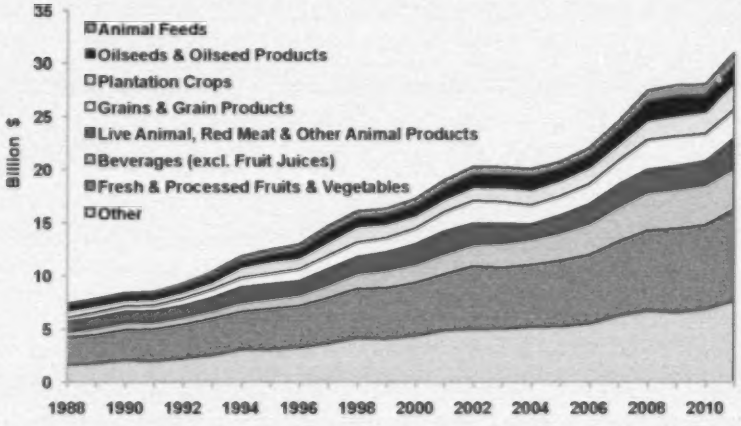
Chart B2.19
Commodity Composition of Canadian Agriculture and Agri-Food Import Sales, 2011


Total $31.0 Billion
Animal Feeds 3.5%
Oilseeds & Oilseed Products 5.3%
Other 24.5%
Plantation Crops 8.5%
Grains & Grain Products 8.7%
Fresh & Processed Fruits & Vegetables (incl. Fruit Juices) 27.6%
Live Animal, Red Meat & Other Animal Products 9.0%
Beverages (excl. Fruit Juices) 12.8%

Over time, growth in the value of imports has occurred in several categories, with the largest growth seen in fresh and processed fruits and vegetables and beverages (excluding fruit juices).

The "other" category, which also exhibited significant growth, is composed of a wide variety of products including confectionery products and food ingredients, such as sauces and spices that make up a large and growing component of this category.

Chart B2.20
Commodity Composition of Canadian Agriculture and Agri-Food Import Sales, 1988-2011



Source: Statistics Canada and AAFC calculations.

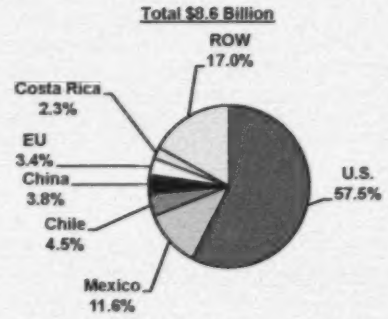
Fresh and processed fruits and vegetables are the largest category of Canadian imports by value

In 2011, Canada imported $8.6 billion worth of fresh and processed fruits and vegetables.

The U.S. was Canada's largest source of these imports, accounting for 57.5% in 2011. Mexico was the second-largest source at 11.6%.

Fresh berries were the largest item imported by value, accounting for 8.3% of the total, followed by fruit juices (8.1%) and other fresh fruits and nuts (7.7%).

Chart B2.21
Canadian Fresh and Processed Fruit and Vegetable Imports by Country of Origin, 2011

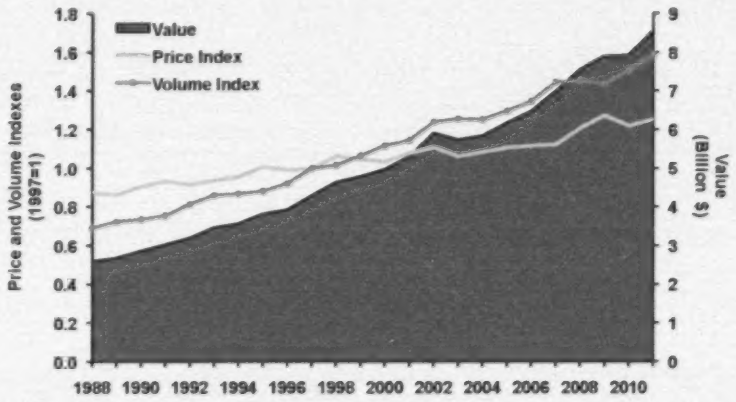


Source: Statistics Canada and AAFC calculations.
Note: Includes fruit juice.

Higher import volumes and prices in 2011 contributed to an increase in import values, up from $7.9 billion in 2010 to $8.6 billion in 2011.

Steady growth in import volumes and somewhat slower growth in import prices contributed to the steady increase in the import value of fresh and processed fruits and vegetables over the past two decades.

Chart B2.22
Canadian Fresh and Processed Fruit and Vegetable Imports, Price and Volume Indexes, 1988-2011*

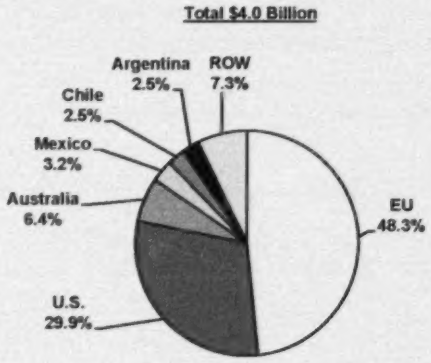


Source: Statistics Canada and AAFC calculations.
Note: *Includes fruit juice and other processed items.

The EU and the U.S. supplied over 75% of all beverage imports (excluding fruit juices) by value to Canada in 2011.

The largest imports by value were wine (47%), distilled beverages (18%) and beer (14%). Other important categories included mineral water (10%) and other non-alcoholic beverages (excluding fruit juices) (9%).

Chart B2.23
Canadian Beverage Imports by Country of Origin, 2011

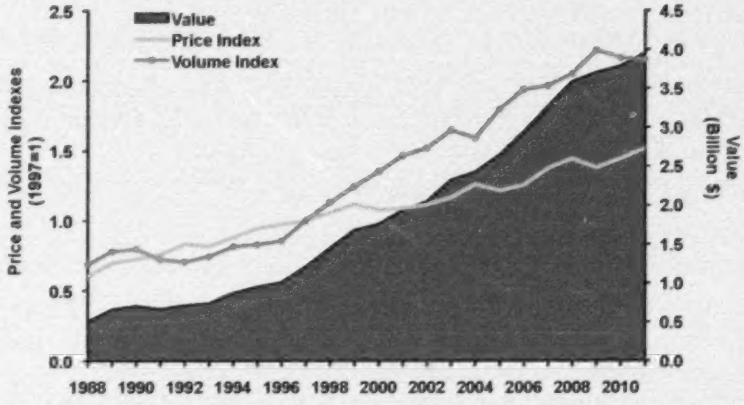


Source: Statistics Canada and AAFC calculations.
Note: Excludes fruit juice.

The value of Canadian beverage imports increased from $3.8 billion in 2010 to $4.0 billion in 2011 as higher import prices offset lower import volumes.

Growth in import values has slowed over the past several years as import volumes declined since the recession of 2009.

Chart B2.24
Canadian Beverage Imports, Price and Volume Indexes, 1988-2011*



Source: Statistics Canada and AAFC calculations.
Note: *Excludes fruit juice.

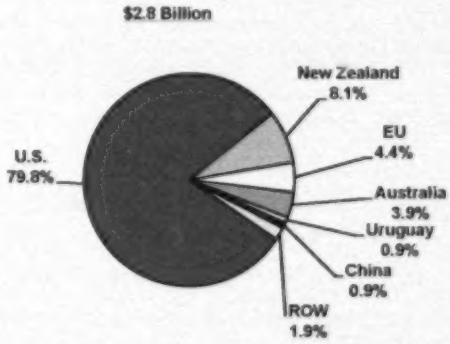
The U.S. is the primary source of Canadian imports of live animal, red meat and other animal products

The U.S. accounted for close to 80% of the value of all live animal, red meat and other animal products imports in 2011.

Imports from the U.S. were almost ten times greater than imports from the next largest source, New Zealand.

The largest item in this category by value was fresh or frozen bovine meat (35.8%) followed by fresh or frozen pork meat (17%).

Chart B2.25
Canadian Live Animal, Red Meat and Other Animal Product Imports, by Country of Origin, 2011

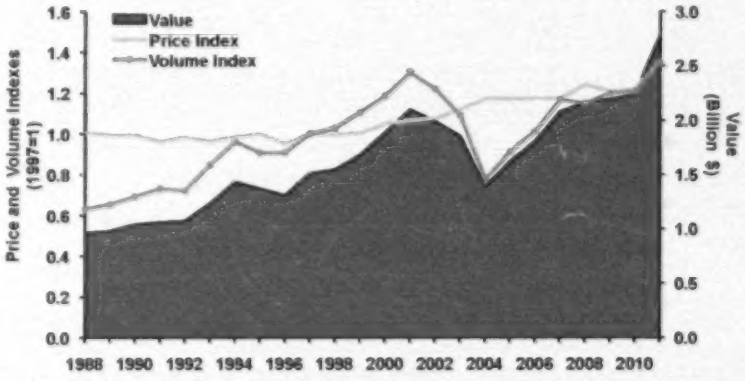


Source: Statistics Canada and AAFC calculations.

The value of live animal, red meat and other animal products imports increased from $2.2 billion in 2010 to $2.8 billion in 2011.

In general, higher import prices and import volumes contributed to higher import values in 2011.

Chart B2.26
Canadian Live Animal*, Red Meat and Other Animal Product Imports, Price and Volume Indexes, 1988-2011



Source: Statistics Canada and AAFC calculations.
Note: * Trade indices reflect red meats and other animal products only. Trade values reflect all categories.

SECTION B3

Innovation and Productivity in the Agriculture and Agri-Food System

Introduction:

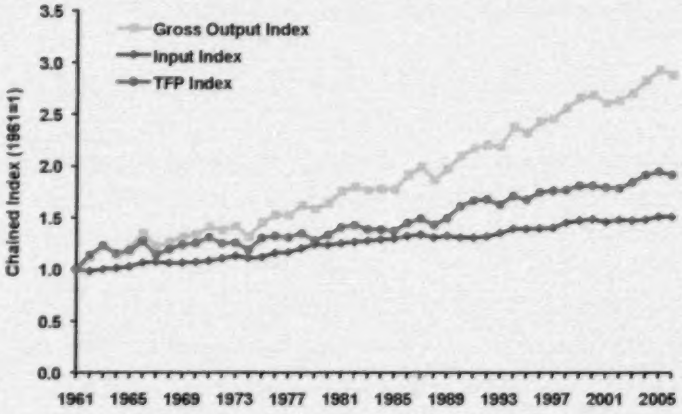
Innovation is key to the agriculture and agri-food sector's productivity growth, competitiveness and sustainability. Innovation is the introduction of new or significantly-improved products and processes which, when adopted and/or implemented, can enhance the manner in which capital, labour and other inputs are combined, resulting in more efficient production or higher returns via new products of higher value. Investments in research and development (R&D), technological improvements and their adoption, diffusion and commercialization contribute to improved productivity growth. This is important for the sector as it adapts and responds to competitive pressures, changing consumer demands and global challenges related to food security and natural resource constraints in the future. Investing in continuous innovation today can lead to long-term prosperity. While Canadian agriculture has been benefiting from past investments in R&D and innovation, the food and beverage processing industry needs to boost investments as well to increase its productivity growth and competitiveness.

Productivity growth in primary agriculture has contributed to long-term economic growth in the sector

Total factor productivity (TFP) growth, which accounts for the difference between output growth and input growth, has been increasing steadily.

Between 1961 and 2006, output grew at an annual average rate of 2.3%. This growth was mostly driven by improvements in productivity. Total factor productivity grew at an annual average rate of 1.6% between 1961 and 2006, while growth in the use of inputs was approximately 0.7% per year during the same period. In other words, today, a farmer can produce two times the amount of output with only half the resources used in 1961.

Chart B3.1
Gross Output, Input and Total Factor Productivity Growth in Primary Agriculture, 1961-2006



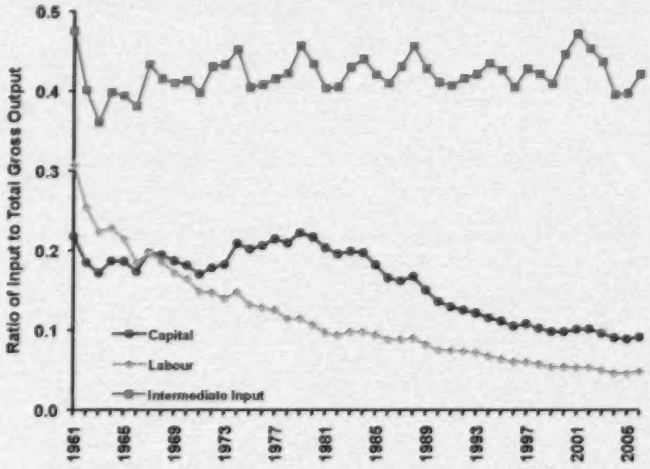
Source: AAFC.

Of the various inputs used to produce agricultural output, purchased (intermediate) inputs have been relatively more important compared with capital and labour.

Of the total inputs used in agriculture, intermediate (purchased and farm-produced) inputs account for the greatest share of total inputs, and have become increasingly important. This is reflected by the moderate but steady growth in the ratio of intermediate input to output.

The amount of labour (comprised of operator, unpaid family and hired labour) needed to produce a unit of output has decreased steadily over time, as shown by the declining labour-output ratio. The capital-output ratio has also declined quite steadily since the late 1970s.

Chart B3.2
Input–Output Ratios in Primary Agriculture, 1961-2006



Source: AAFC.
Note: The input-output ratios are calculated from constant 1961 dollar implicit quantity for labour input, capital services input, intermediate input and total gross output.

Note(s):
Productivity is the change in output that cannot be accounted for by a change in combined inputs. Total factor productivity (TFP) is expressed as the ratio of total outputs to total inputs. Productivity growth, or growth in TFP, reflects improvements in technologies and efficiencies in a firm or an industry. Multifactor productivity (MFP) and total factor productivity are often used interchangeably. While MFP relates a change in output relative to several inputs, TFP is said to capture the contribution of all inputs relative to overall output. (Source: adapted from Measuring Productivity, OECD, 2001).

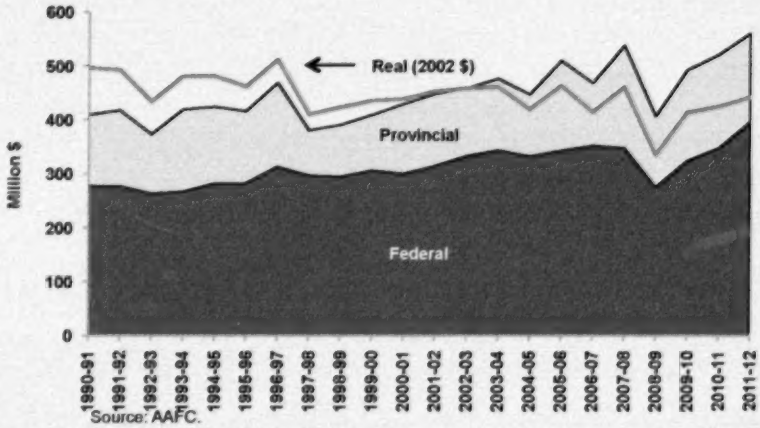
Similarly, public investments in R&D in the agriculture and agri-food sector represent critical sources of innovation and productivity growth

Publicly-funded research spending on agriculture and agri-food, of which the majority is attributable to the federal government, is estimated to rise to $561 million in 2011-12.

Over the last decade, total publicly-funded research expenditures have shown an increasing trend since the 2008-09 decline that occurred at the end of the Agricultural Policy Framework before new initiatives were put in place. Over this same period, the federal share of total R&D expenditures has accounted for an average of 70%, with provincial public expenditures accounting for the remaining 30%. Both federal and provincial R&D expenditures have grown considerably.

After accounting for inflation, real government R&D expenditures (2002$) have declined since 2008-09, and are below their overall trend in 2011-2012.

Chart B3.3
Government Research Expenditures on Agriculture and Agri-Food,
1990-91 to 2011-12



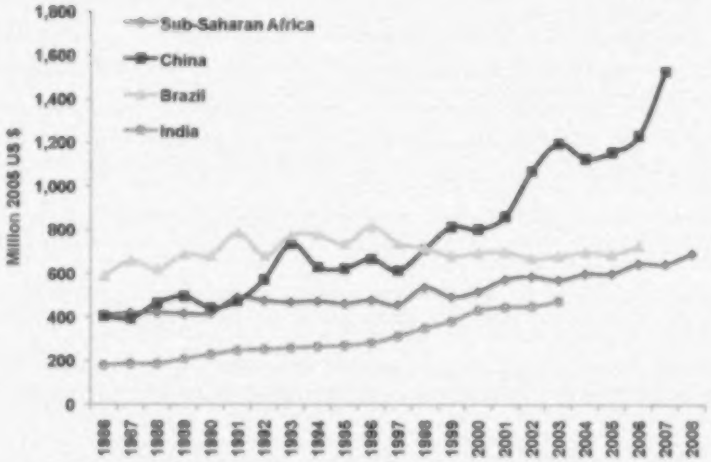
Source: AAFC.
Note: 2011-12 figures are estimates.
Real government expenditures on R&D in agriculture and agri-food have been deflated to 2002 dollars.

Around the world, public R&D investments in the agriculture and agri-food sector are growing more quickly in some emerging economies

Emerging economies have been increasing their public expenditures on agricultural R&D in recent years.

China, in particular, has boosted public R&D expenditures dramatically since 1986 from $404 million to over $1.5 billion ($US 2005)* in 2007. In Sub-Saharan Africa, investment in public agricultural R&D rose more than 50% between 1986 and 2008 from $407 million to $691 million. Similarly, investment in public agricultural research in India rose from $180 million in 1986 to $474 million in 2003. R&D spending in Brazil, on the other hand, remained relatively stable over this period with average expenditures of $677 million until 2006, when they rose to $728 million ($US 2005).

Chart B3.4
Global Public Agricultural R&D Expenditures of Selected Countries/Regions, 1986-2008

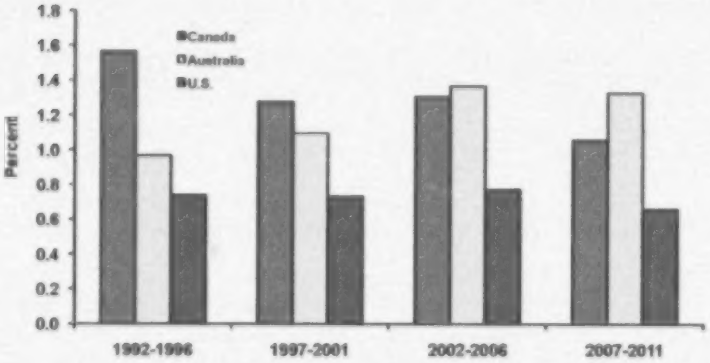


Source: Agricultural Science and Technology Indicators (ASTI) database, 2011.
Note: 1) Public research expenditures include salaries, operating costs and capital costs.
2) For many regions, data at the country level is not yet available.

When reported as a share of adjusted value of agriculture production (AVP), Canada's public R&D spending has decreased over time while still remaining above that of the U.S., but falling below that of Australia.

During the 2007-11 period, Canada's public agricultural R&D spending averaged 1.06% as a share of the AVP, a decrease from the 1.31% average over the 2002-06 period. While Canada's public agricultural R&D spending has fallen below that of Australia in recent years, Australia's expenditures have also fallen slightly from their 2002-06 level of 1.37% to 1.32% in the 2007-11 period. Canada's spending share remains above that of the U.S. in the most recent time period; however, the gap between Canada and the U.S. has been gradually diminishing.

Chart B3.5
Public R&D Spending to Support the Agriculture and Agri-Food Sector as a Share of Adjusted Value of Production, 1992-96 to 2007-2011



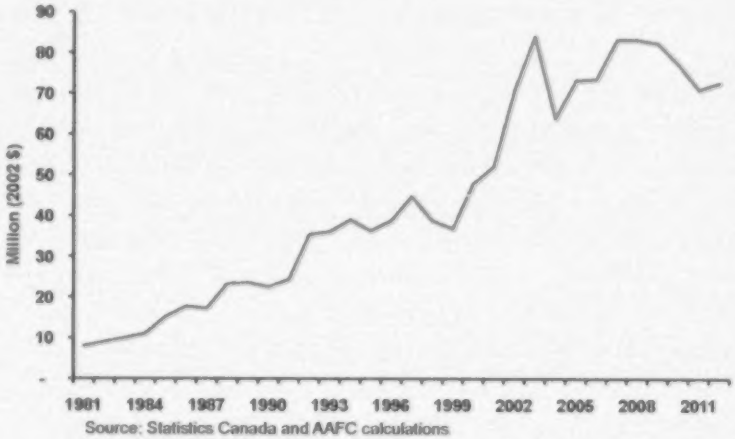
Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database.

Steady growth in private R&D investments in agriculture has resulted from intellectual property right protection and increased collaboration in Canada between producers, industry and the public sector

Private sector R&D investments in agriculture have grown steadily since the 1980s, when intellectual property rights (IPR) protection on new crop varieties was introduced.

Private sector spending on primary agriculture reached $70 million in 2011, down from a peak of $84 million in 2002. In real terms, spending increased exponentially between 1998 and 2002, but has slowed more recently. However, these data present an incomplete picture of private R&D spending in agriculture because they do not include business spending on R&D in other related industries. The agriculture industry benefits from research conducted by firms in related industries such as seed developers, chemical companies, machinery companies, contract service providers and biological and life science companies.

Chart B3.6
Real Private Sector R&D in Primary Agriculture, 1980-2011



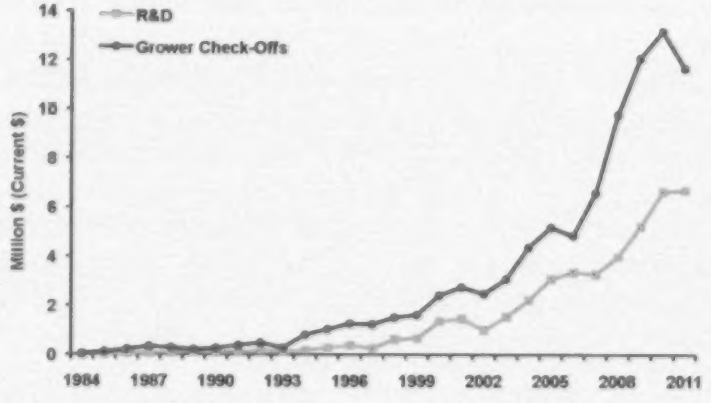
Source: Statistics Canada and AAFC calculations
Notes: 1) 2009-2011 figures are preliminary.
2) This includes all R&D expenditures (intramural) made by private industry regardless of whether the sources of funds were self-finance

Industry check-offs are an important source of funding for R&D in agriculture for some commodities. Check-offs have allowed producers to help finance and benefit from investments in commodity R&D.

The primary mechanism for financing the activities of the Saskatchewan pulse growers, for example, is a grower check-off collected as a percentage of final sales to fund pulse research and market promotion for the benefit of all growers.

Saskatchewan pulse growers' revenues, derived from check-offs, have grown substantially since 2007. In 2011, the amount of annual check-offs collected by the SPG increased by 77% to reach $11.6 million. Over this period, the amount of check-off revenues allocated to research and development expenditures increased by 103% to reach $5.2 million in 2011.

Chart B3.7
Saskatchewan Pulse Growers R&D Expenditures and Check-Offs, 1984-2011



Source: Saskatchewan Pulse Growers Annual Report, various years.

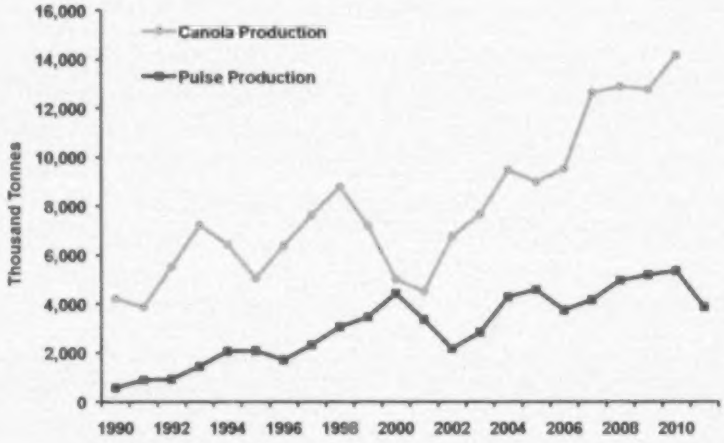
Note(s):
Industry Check-Offs: some producer associations collect levies from grower members for research, development and promotion of agriculture commodities. These arrangements usually involve an annual assessment of marketings or sales, where the revenue is pooled by the grower organization and a percentage share or fixed amount is collected for these purposes.

Crop production has benefited from improvements in plant genetics, agronomic attributes, and production practices which have allowed producers to adopt better varieties or grow a broader mix of crops.

One such success is canola, which was developed in the 1960s when government scientists collaborated with producers and the Rapeseed Association of Canada. The canola crop is well adapted to prairie growing conditions and delivers high-value food oil to markets at home and abroad. Canola production was more than 14 million tonnes in 2011, four times higher than in 1990.

Similarly, agronomic research on the Prairies led to new pulse varieties being adopted for new markets, such as India. While total production of pulses in 2011 fell abruptly due to wet weather, the industry continues to position itself through continued research (funded by producer check-offs).

Chart B3.8
Pulse and Canola Production in Canada, 1990-2011

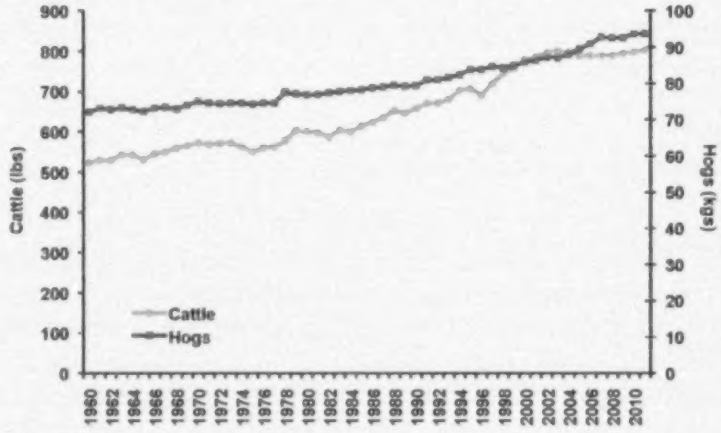


Source: Statistics Canada and AAFC calculations.

At the same time, changes and improvements in breeding and feeding regimes have led to higher output per animal.

Cattle and hog production have grown steadily over the past three decades, showing greater efficiency in output per animal due to the adoption of larger breeds that finish at higher weights primarily driven by changing meat processor demands. Average hog carcass weights have grown by over 16 kilograms per animal (almost 20%) since 1980. Meanwhile, the average cattle carcass weight has increased by 26% over the same period (i.e. 205 pounds per animal).

Chart B3.9
Average Weight of Cattle and Hog Carcasses, 1960-2011



Source: Canfax and AAFC, various years.

Note(s):
Innovation in the agriculture, agri-food and agri-based products sector is a process that generates new knowledge and develops or adapts new or improved products, processes or practices that are implemented or adopted to add value to farms, firms or the sector. Innovation is dynamic and complex and there are many definitions. Probably the most widely used definition of innovation is provided by the OECD in its Oslo Manual. However this definition, developed by AAFC, incorporates several models of innovation, acknowledging that factors driving it and the environment where it occurs are especially relevant for the agri-food sector

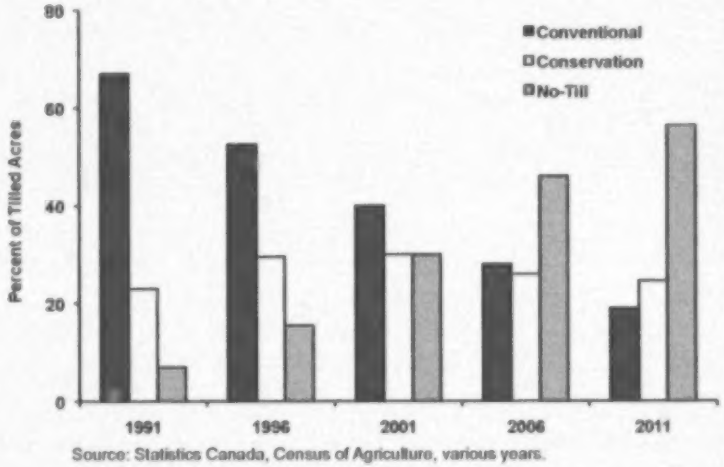
Innovation and adoption of new production practices have also contributed to both improved environmental and economic performance in agriculture

Minimum-tillage or "no-till" practices have been widely adopted and now account for more than half of all area prepared for seeding in Canada.

As a result, the area of land seeded using no-till practices increased by 23.8% between 2006 and 2011.

No-till practices are dominant on the Prairies, where financial and environmental benefits of low-impact, one-pass seeding include reduced fuel and machinery costs while improving soil quality and reducing erosion.

Chart B3.10
Tillage Practices,
1991-2011



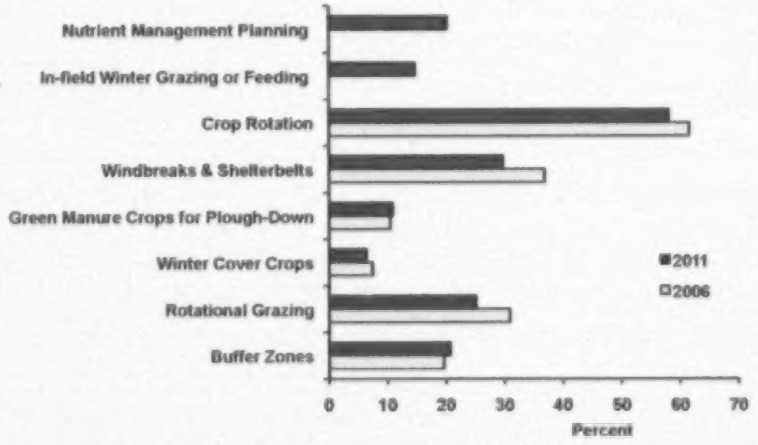
Source: Statistics Canada, Census of Agriculture, various years.

Other land management practices, especially crop rotations continue to be adopted as farmers strive to improve their sustainability and yields.

Crop rotations continue to provide economic benefits, while also contributing to sustainability. Other important soil conservation practices include rotational grazing and buffer zones. Nutrient management planning and infield winter grazing or feeding are also important 'best management' practices that contribute to both environmental and economic sustainability.

However, the share of farms reporting the use of such practices declined between 2006 and 2011.

Chart B3.11
Soil Conservation Practices,
2006 and 2011



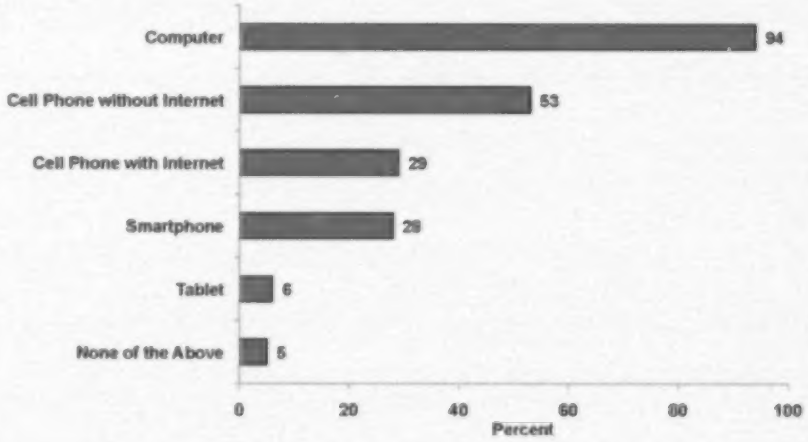
Source: Statistics Canada, Census of Agriculture, 2006 and 2011.

Producers are also innovating by making use of computers, the internet and mobile devices

In a recent Farm Credit Canada survey, producers were asked what types of technology they owned; 94% reported that they owned a computer, 53% owned a cell phone without internet and 28% owned a smartphone.

This technology is important to them for accessing relevant financial and commodity data and information, and helps to keep them competitive.

Chart B3.12
Producer Technology Ownership, 2011

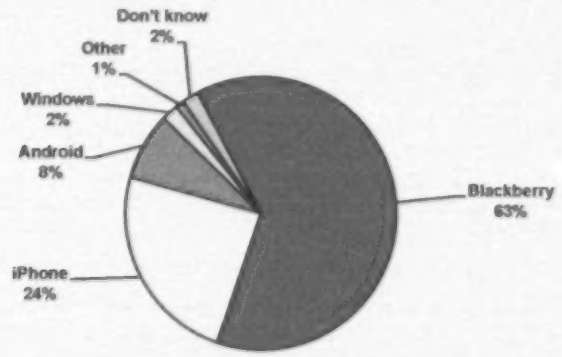


Source; Farm Credit Canada (FCC) Vision Research Report, November 2011.

Producers are adopting mobile devices, such as smartphones, as quickly as the rest of Canadians.

Recent polls indicate that younger producers (those under 40 years of age) are more likely to own mobile devices, especially smartphones (41%) compared to 26% of those over 40 years of age. Of the 29% of producers who reported owning a smartphone in 2011, most of them use the Blackberry (63%) and almost one-quarter own iPhones. Farm Credit Canada anticipates that the pace of adoption of smartphones will quicken over the next two years.

Chart B3.13
Producer Smartphone Ownership by Type of Device, 2011



Source: Farm Credit Canada (FCC) Vision Research Report, November 2011.

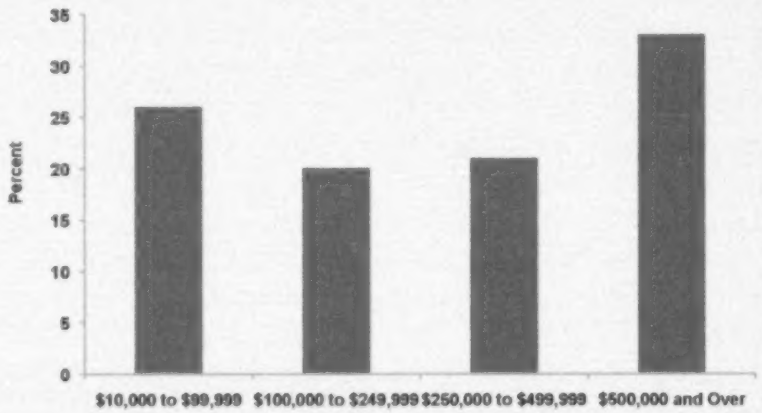
Farmers constantly need to increase their knowledge and management skills through learning opportunities and skill development in order to meet the challenges of innovating and adopting new technologies

The 2010 Farm Financial Survey shows that the extent to which farm operators make use of workshops and conferences to update their skills varies by farm size.

Operators of large farms (revenues of $500,000 or more) were most likely to have participated in learning opportunities, at 33% of farmers. Just over one-quarter (26%) of small farms (revenues of $10,000 to $99,999) reported having participated in learning opportunities, while an average of 20% of medium-sized farms (with revenues between $100,000 and $249,000 and $250,000 to $499,999) reported participating in learning opportunities in 2010.

Chart B3.14

Percent of Operators Participating in Learning Opportunities to Expand their Business Management Skills, by Revenue Class, 2010



Source: Statistics Canada, Farm Financial Survey, 2010.
Note : Data are for operator participation (over the past 2 years) in a workshop, conference or other learning opportunity.

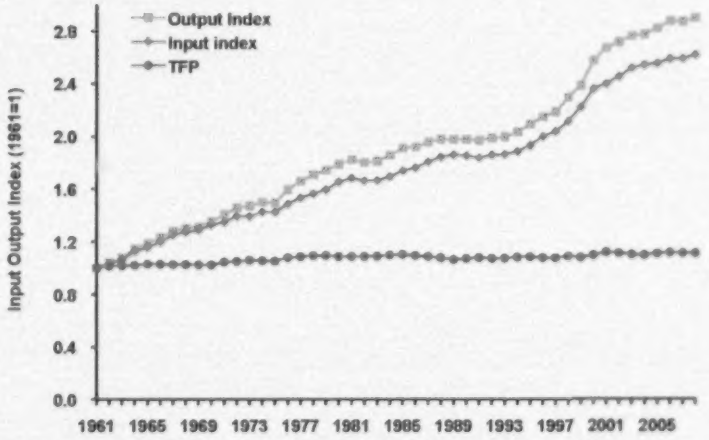
Total factor productivity (TFP) growth in the food and beverage processing industry has been weak, with most of the sector's output growth coming from greater input use

In food processing, TFP has grown only marginally, at an average annual rate of 0.2% between 1961 and 2008.

Between 1961 and 2008, gross output grew at an average annual rate of 2.5%. This was mainly driven by input growth of 2.3% per year. Food processing innovation is characterized by adoption of new inputs such as ingredients and new technology through the purchasing of new machinery and equipment.

However, in order to boost productivity growth in the future, the sector needs to invest more in innovation.

Chart B3.15
Input, Output and TFP Growth in the Food Processing Industry, 1961-2008

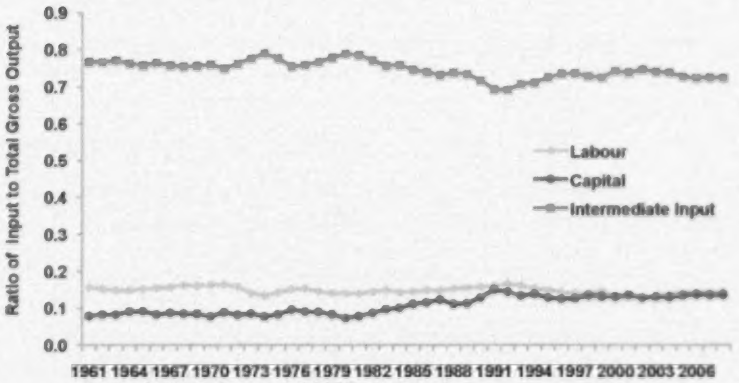


Source: Statistics Canada and AAFC calculations.

Intermediate inputs have contributed more to output growth compared to capital and labour inputs.

Input use per unit of output has been quite steady, with only small variations in capital and intermediate input ratios, a slight trend to higher capital intensity and lower intermediate input intensity.

Chart B3.16
Input–Output Ratios in the Food Processing Industry, 1961-2008



Source: Statistics Canada and AAFC calculations.
Note: The input-output ratios are calculated from constant 1961 dollar implicit quantity for labour input, capital services input, intermediate input and total gross output.

Private sector R&D spending in food processing has been growing over the past decade but as a share of value added, R&D intensity tends to be low relative to competitors

Real private R&D expenditures in the food processing industry are estimated to have reached $156 million in 2011, following the steady upward growth since 2000. R&D spending averaged $79 million between 1980 and 2000.

The food processing industry has benefited from innovations in food safety and preservation processes (i.e. HACCP* and flash freezing) as well as inventory control (i.e. "just-in-time" inventory). Products are also continually being improved with the use of new ingredients and innovative packaging, as food processors benefit from innovations taking place in other industries in the supply chain.

*See Glossary.

Chart B3.17
Real Private Sector R&D Expenditures in Food Processing, 1980-2011

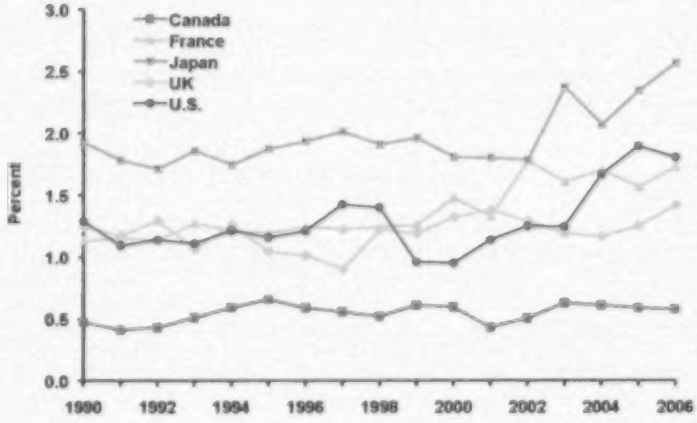
Source: Statistics Canada and AAFC calculations.
Notes: 1) 2009 – 2011 figures are preliminary.
2) This includes all R&D expenditures (intramural) made by private industry regardless of whether the sources of funds were self-financed.

Relative to major competitors, the food and beverage processing industry in Canada tends to have a lower R&D intensity (the share of its value of production spent on R&D).

In 2006, the food and beverage processing industry in Canada spent about 0.6% of value-added on R&D compared to 1.8% in the U.S. and 2.6% in Japan. Surveys show that less than 50% of Canadian food and beverage processing firms engage in their own R&D.

However, R&D intensity may be a poor indicator of innovation in food processing in Canada because much of the R&D investments take place in head offices of multinationals outside of Canada, which benefit Canadian subsidiaries. Moreover, Canadian firms tend to modify technology developed by others, adapt machinery and equipment purchased from overseas, or benefit from investments made in R&D by supply chain partners (e.g. packagers). However, future productivity growth will require greater investments in R&D and innovation by the sector.

Chart B3.18
Food and Beverage Industry R&D Expenditures as a Share of Value-Added, in Selected OECD Countries, 1990-2006



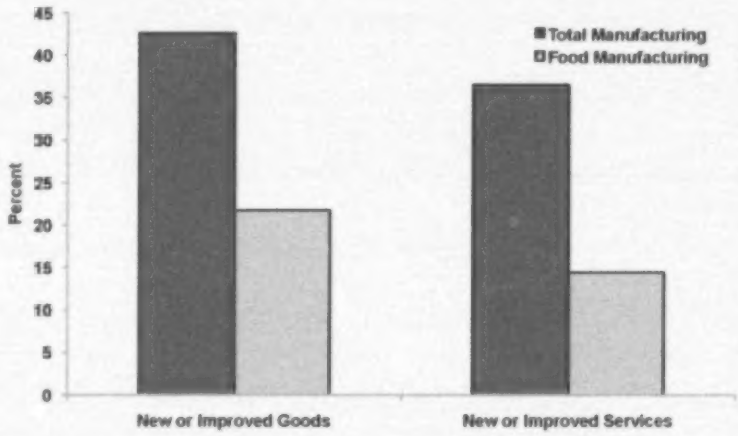
Source: OECD, STAN Indicators, 2011.

The introduction of new or improved goods, services or processes is a critical measure of innovation in food processing

Product innovations can include new or significantly-improved goods or services.

Fewer food processing enterprises reported introducing a product innovation than did total manufacturers. Between 2007 and 2009, 22% of food manufacturing enterprises reported introducing new or improved goods and 14% introduced new or improved services. By comparison, over the same period, manufacturing enterprises were more innovative, as 43% introduced a new or improved good and 37%, new or improved services, respectively.

Chart B3.19
Percent of Enterprises that Introduced a Product Innovation, 2007-2009



Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

Food processors tended to introduce process innovations at rates more or less comparable to total manufacturing industries.

A process innovation is the implementation of a new or significantly-improved production process, distribution method or support activity. Between 2007 and 2009, 45% of food manufacturing enterprises reported that they had introduced new or improved methods of manufacturing goods or services, while 18% introduced new or improved logistics, delivery or distribution methods, and 26% introduced new supporting activities.

This compares with 49% of total manufacturers who reported introducing new manufacturing processes, 16% who introduced new logistics and 31% who introduced new supporting activities.

Chart B3.20
Percent of Enterprises that Introduced a Process Innovation by Type, 2007-2009

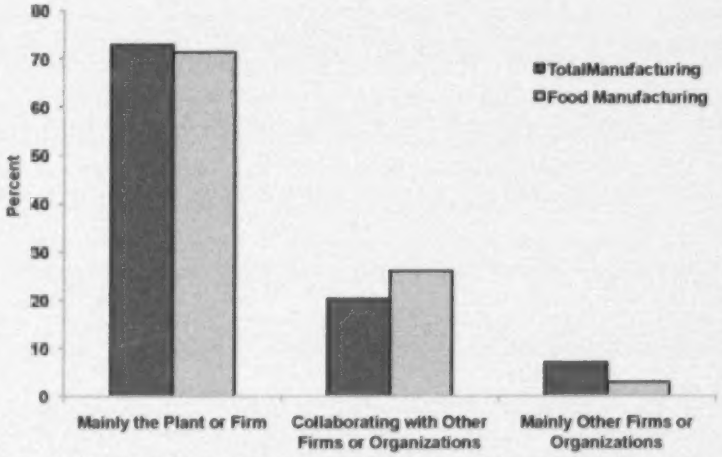
Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

Collaboration in developing product and process innovations tends to be more important for food processing establishments than other manufacturers

Most manufacturing firms develop product innovations in-house. This could reflect the shorter time it takes to have market-ready products and the financial gains associated with "first to market".

Around 70% of both food processors and total manufacturers reported that they developed product innovations themselves. However, 23% of food processors and 20% of total manufacturers reported that they collaborated with others when developing product innovations.

Chart B3.21
Percent of Enterprises that Developed a Product Innovation, 2007-2009

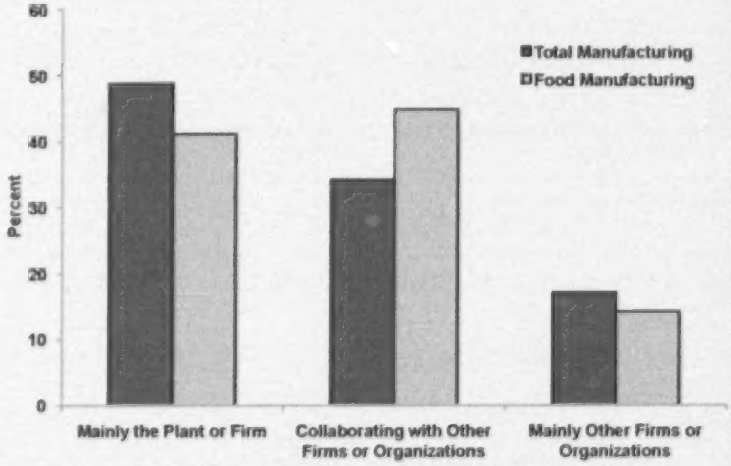


Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

On the other hand, collaboration is more important for process innovations in both food and total manufacturing, perhaps due to the adaptive nature of implementing new technology.

Between 2007 and 2009, 45% of food processors reported collaborating on process innovations compared to just 34% of total manufacturers. However, more total manufacturers reported developing process innovations on their own (at 49%) compared to 41% of food processors.

Chart B3.22
Percent of Enterprises that Developed a Process Innovation, 2007-2009



Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

For food processing enterprises, innovating is one of their key business strategies, second only to competing on price

However food processing enterprises lagged when it came to introducing new technologies or processes compared to total manufacturers as a key strategy used to compete with new entrants.

Over 50% of food manufacturers responded to new entrants by introducing new goods or services or changing their marketing expenditures. This compares to only 40% of total manufacturers. Adopting new technology was also a popular strategy for responding to increased competition, but at 33%, food processing enterprises lagged compared to 40% of total manufacturers. However, most enterprises in both food processing and total manufacturing reported that they changed their prices in response to competition, at almost 70% of respondents.

Chart B3.23
Enterprise Business Strategies Identified Following Entry of New Competitors in Main Market, 2009

Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

SECTION C

Components of the Agriculture and Agri-Food System

SECTION C1

Consumers

Introduction:

The economic recovery in Canada continued in 2011 as employment and real GDP in the overall economy grew. Real per capita personal disposable income rose once again in 2011 as job growth led to income gains. However, household debt continued to rise as mortgage rates remained historically low and consumer credit slowed as consumers tightened their belts and cut back on discretionary spending.

Spending on food, particularly food from stores, continued to grow in 2011. Spending on restaurant meals resumed its upward trend after having declined during the recession. Retail food price inflation heated up again in the wake of rising commodity prices and exceeded the overall rate of inflation, which also strengthened in 2011.

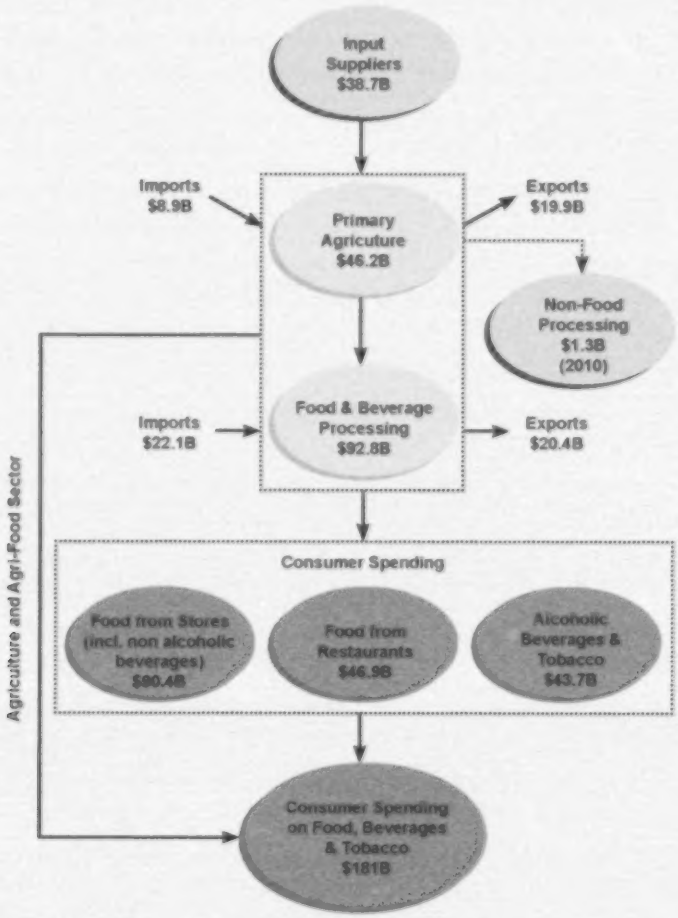
Canadian consumers continued to look beyond staple foods to products with attributes that reflect their divergent preferences and values. However, cost remained a top priority.

Canadian consumers spent about $181 billion on food, beverages and tobacco from stores and restaurants in 2011

Canadian consumers benefit from a highly competitive, efficient and dynamic food system that provides them with access to a wide variety of low cost, nutritious, safe and high quality food products to choose from.

Founded on an efficient and viable domestic primary agriculture sector, the Canadian food system produces, processes and distributes agriculture and agri-food products here at home and around the world.

Chart C1.1
The Agricultural and Agri-Food System, 2011



Source: AAFC.

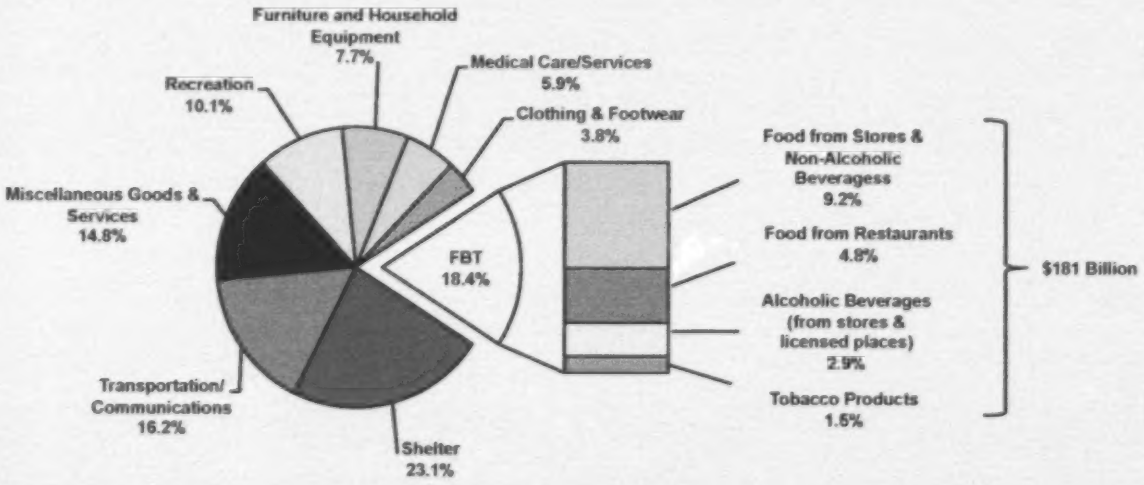
Personal expenditures on food, beverages and tobacco represented the second-largest consumer goods and services category after shelter in 2011

Total spending on food, beverages and tobacco, rose to $181 billion in 2011, to account for 18.4% of total personal spending.

Expenditures on food from stores and non-alcoholic beverages rose to $90.4 billion, accounting for 9.2% of total personal spending, while food from restaurants rose to $46.9 billion, to account for 4.8% of the total. Spending on alcoholic beverages and tobacco products added an additional $43.7 billion to total personal spending in 2011.

Canadians spent the largest amount on shelter at $226.7 billion, accounting for 23.1% of the total. Other important expenditure items included transportation and communications at 16.2%, followed by miscellaneous goods and services at 14.8% and recreation at 10.1% of the total.

Chart C1.2
Distribution of Personal Expenditures on Goods and Services, 2011



Source: Statistics Canada custom tabulation and AAFC calculations.

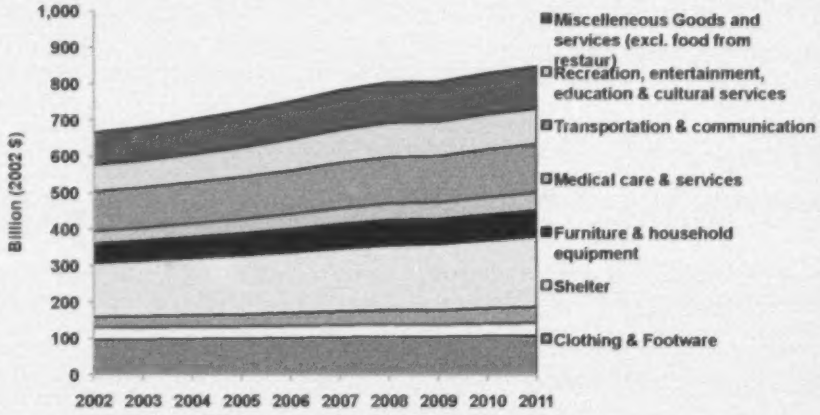
All major categories of personal spending were higher in 2011, after taking price increases into account

After adjusting for inflation, Canadians spent a total of $861.8 billion (chained 2002 $) on personal goods and services, up from $841.5 billion (2.4%) in 2010. Food, beverage and tobacco expenditures rose to $142.2 billion, up 1.3% from 2010. That of food from stores and restaurants rose to $108.1 billion, representing a 1.2% increase over 2010. Spending on alcoholic beverages and tobacco was also up by 1.9% in 2011.

Approximately two-thirds (66%) of total food expenditures were spent on food purchased from stores, while the remaining one-third (34%) was spent on food purchased from restaurants. This is roughly the same allocation of consumers' food budgets as in the previous decade.

Other spending categories that increased significantly in 2011 included shelter, transportation and medical care/health services.

Chart C1.3
Personal Expenditures on Goods and Services, (2002 $)
2002-2011



Source: Statistics Canada and AAFC calculations.
Note: *Food includes food and non-alcoholic beverages from stores and food from restaurants.

While higher income Canadian households spent more on food in absolute terms, they allocated a smaller share of their budget to food than did lower income Canadians and Americans

In 2010, higher income households spent more on food from stores and restaurants than did lower income households.

In 2010, the lowest income Canadian households (the first quintile) spent $3,169 per household on food from stores and $954 on food from restaurants. As income rose, higher income households allocated more to food from both stores and restaurants. The highest income households (the fifth quintile) spent $7,798 per household on food from stores and $3,669 on food from restaurants.

Chart C1.4
Household Expenditures on Food Purchased from Stores and from Restaurants by Income Quintile*, 2010

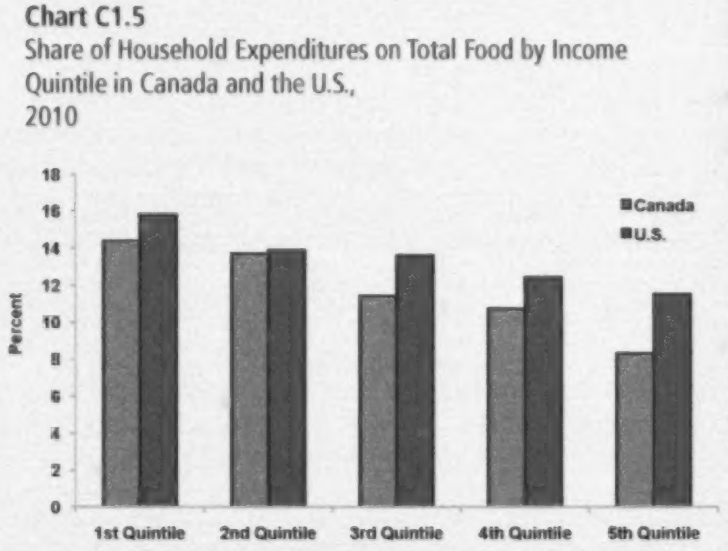
Source: Statistics Canada, custom tabulation.
Note: *Quintile: Households are ranked in ascending order by total household income and are divided into five equal groups. The 1st quintile is the 20% of households with the lowest income and the 5th quintile is the highest 20% of households.

While both Canadian and American households tend to allocate a declining share of their budgets to total food as income rises, Canadian households in all income classes tend to allocate a smaller share of their budgets to food than do their American counterparts.

In 2010, the top 20% of Canadian households with the highest income (the fifth quintile) allocated only 8.3% of their household budgets to food from stores and from restaurants, compared to 14.4% for the lowest income quintile. Similarly in the U.S., the top income households allocated 11.5% of their budget to total food, compared to almost 16% for the lowest income households.

However, Canadian households in all income classes allocated smaller shares of their budgets to food than did U.S. households. American households experienced greater reductions in household income following the recession of 2008-10. In addition, American households tend to spend more on restaurant meals, thus boosting their share of budgets on total food.

Chart C1.5
Share of Household Expenditures on Total Food by Income Quintile in Canada and the U.S., 2010



Source: Statistics Canada, U.S. Bureau of Labor Statistics, and AAFC calculations.
Note: *Quintile: Households are ranked in ascending order by total household income and are divided into five equal groups. The 1st quintile is the lowest 20% of households and the 5th quintile is the highest 20% of households.

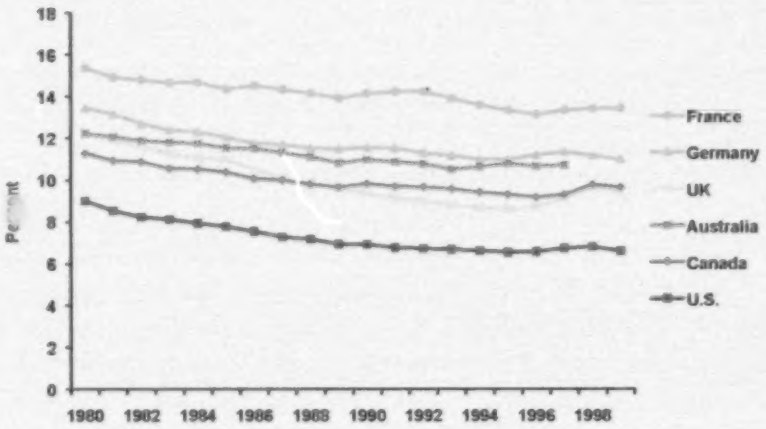
Overall, the share of total household expenditures on food from stores and non-alcoholic beverages has been declining in all major OECD countries over time

Canadians allocated a smaller proportion of their spending to food from stores and non-alcoholic beverages in 2010, compared to several other OECD countries. Canadian households allocated about 9.7% of their spending to food and non-alcoholic beverages, virtually unchanged from 2009 (9.8%).

However, this was up slightly compared to 2008 when it was 9.3%. In 2010, Canada's share was comparable to the UK (9.4%), but substantially lower than that of France (13.5%) and Germany (11.0%). This compares to 1991, when Canadian households allocated almost 11.3% of their budgets to food from stores and non-alcoholic beverages. Consumers in the U.S. allocated the lowest share to this item in 2010, at 6.6%.

Chart C1.6

Share of Household Expenditures Spent on Food* and Non-Alcoholic Beverages in Select OECD Countries, 1980-2010



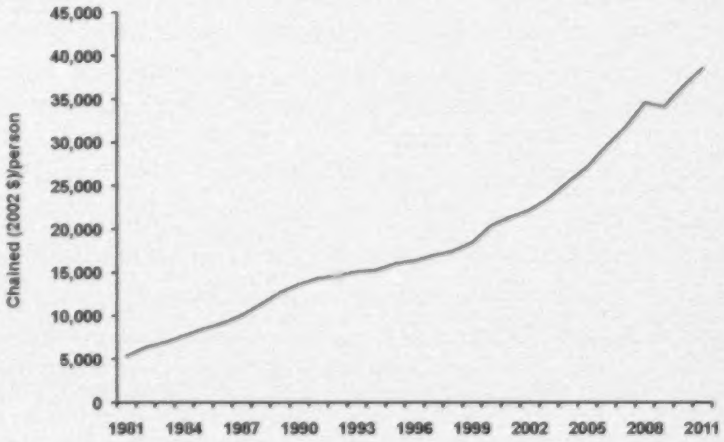
Source: OECD.
Note: *Food refers to food from stores only.

While real per capita personal disposable income resumed its trend upwards in 2011, concerns about heavy household debt still threatened the financial stability of Canadian households

Real per capita personal disposable income rose from $36,439 per person in 2010 to $38,497 in 2011.

The Canadian economy continued to recover from the recession in 2009, as unemployment continued to fall and Canadians experienced personal income gains. Real per capita personal disposable income grew by 5.6% between 2010 and 2011, as it resumed its long-term upward trend.

Chart C1.7
Real Per Capita Disposable Income, 1981-2010

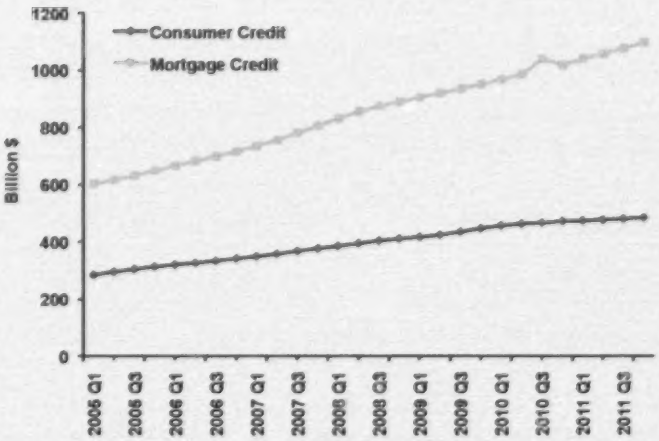


Source: Statistics Canada and AAFC calculations.

While Canadian household debt continued to be at record levels, accumulation slowed as both households and financial institutions reigned in borrowing/lending.

Canadian households not only accumulated debt at a slower pace in an environment of historically-low interest rates, but also managed their debt in an optimal way. As of March 2012, household credit in Canada rose at the slowest pace since 2002. Consumer credit and mortgage credit grew by 3.2% and 6.5 %, respectively, between 2010 and 2011, compared to 7.8% and 8.0%, respectively, in 2009.

Chart C1.8
Consumer Credit and Mortgage Credit in Canada, 2005-2011



Source: CIBC Household Credit Analysis May 2012, Statistics Canada and Bank of Canada.

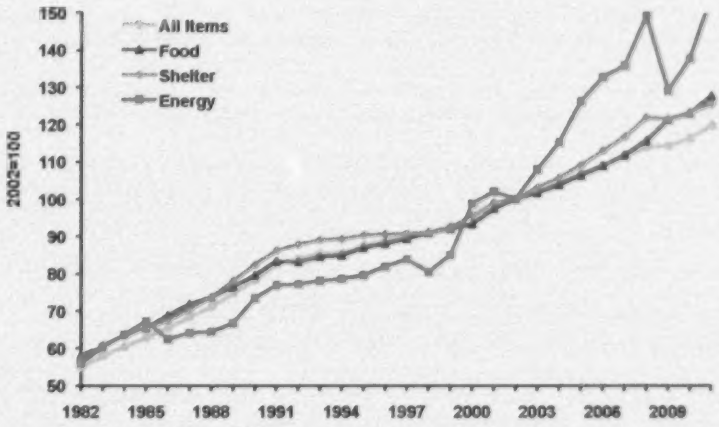
Retail food price inflation in Canada accelerated slightly and crept up above the overall rate of inflation in 2011

Food price inflation has generally kept pace with overall consumer price inflation over the past several decades, but rose above the overall rate in 2009 and again in 2011.

In 2011, retail food prices rose at an annual average rate of 3.7%. However, a slower pace of inflation in other categories, such as shelter (1.8%), contributed to a lower overall inflation rate of 2.9%.

Food price inflation has generally been far less volatile than energy prices faced by consumers, especially in the last few years. For example, energy prices rose 12.2% in 2011.

Chart C1.9
Consumer Price Indices (CPI) for Food, Shelter, Energy and All Items, 1982-2011



Source: Statistics Canada.

In 2011, food prices rose by 3.7% over the previous year. This was below the 4.9% food price inflation seen in 2009, but higher than the 1.4% growth seen in 2010.

Consumer prices exhibited growth across a broad range of food categories in 2011. This is in contrast to 2010, when prices for major commodities generally grew quite slowly or even declined. Prices at retail food stores increased more (4.2%) than at restaurants (2.8%). Beef, pork, eggs, fresh vegetables, bakery and cereal products and sugar and confectionery product prices rose more than the average, while poultry and dairy product prices rose less than the average in 2011.

Chart C1.10
Canadian Retail Food Price Inflation by Category, 2009, 2010, 2011

Category	Inflation (%)		
	2009	2010	2011
Overall CPI	0.3	1.8	2.9
Food	4.9	1.4	3.7
Food Purchased From Stores	5.5	1.0	4.2
Beef Fresh or Frozen	5.8	-0.1	7.1
Pork Fresh or Frozen	3.6	-0.1	6.7
Poultry Fresh or Frozen	4.2	0.2	3
Dairy Products	3.6	0.9	2.5
Eggs	1.7	2.0	7.7
Bakery and Cereal Products	4.2	0.6	5.2
Fresh Fruit	6.3	-3.1	4.3
Fresh Vegetables	9.6	-2.6	9.4
Sugar and Confectionery	7.4	8.1	5.2
Fats and Oils	8.4	0.1	4.2
Food Purchased From Restaurants	3.5	2.4	2.8

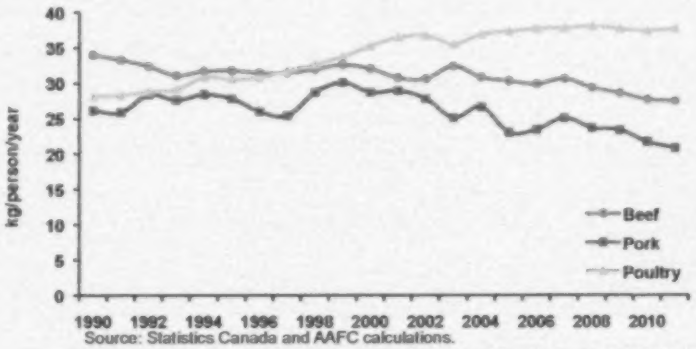
Source: Statistics Canada and AAFC calculations.

Canadian food consumption patterns continue to evolve

Food availability is used as a proxy for consumption. It is also referred to as domestic disappearance, and represents the total food available for human consumption from the Canadian food supply chain.

Beef and pork consumption were down in 2011, while poultry consumption remained steady. Beef consumption, which has been on a relatively steady trend downward, reached 28.3 kg per person in 2011. Pork consumption reached 20.8 kg per person on a carcass weight equivalent in 2011. Among the other major sources of animal protein for Canadians, poultry consumption has grown relatively steadily over time, and has surpassed that of beef since 1997. Per capita poultry consumption reached 37.72 kg per person in 2011.

Chart C1.11
Per Capita Availability of Beef, Pork, Poultry, 1990-2011



Source: Statistics Canada and AAFC calculations.

Notes: 1) Does not allow for losses, such as waste and/or spoilage in stores, households, private institutions or restaurants or losses during preparation. Represents food available for consumption and not actual quantities of food consumed.
2) Beef and pork are reported by carcass weight and poultry by eviscerated weight.
3) Per capita availability refers to the food available for consumption on a per person basis. It is calculated by dividing the domestic disappearance by the Canadian population as of July 1st of the reference year.

Globally, about one-third of food produced for human consumption is estimated to be lost or wasted, at about 1.3 billion tons per year

Food is lost or wasted throughout the food supply chain, from pre-consumption stages (agricultural production, processing, storage and distribution) right down to the final consumption stage (consumers).

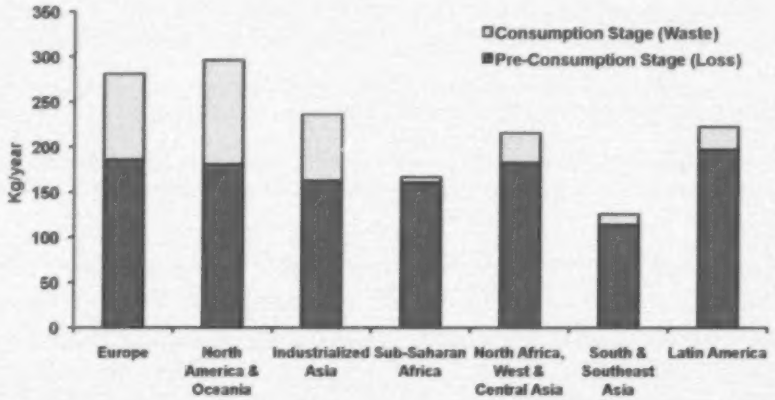
In Europe and North America & Oceania, total per capita food loss was estimated to be approximately 280-300 kg/year, of which food wasted by consumers was estimated at 95-115 kg/year. In Sub-Saharan Africa and South & Southeast Asia, total food loss was estimated at 120-170 kg/year each, of which food wasted by consumers was only 6-11 kg/year.

In developing countries, more than 40% of the food losses occur at post-harvest and processing levels. Food wasted by consumers in industrialized countries (222 million tonnes) is almost as high as the total net food production in Sub-Saharan Africa (230 million tonnes).

Estimates for Canada by the George Morris Centre put food waste at approximately 40% of the total value of food produced in Canada or $27 billion. Estimates of food waste vary from over 40% of meat, poultry and vegetables and 15% for juices and pulses.

Chart C1.12

Per Capita Food Loss and Food Waste at Consumption and Pre-Consumption Stages, by Region, 2010

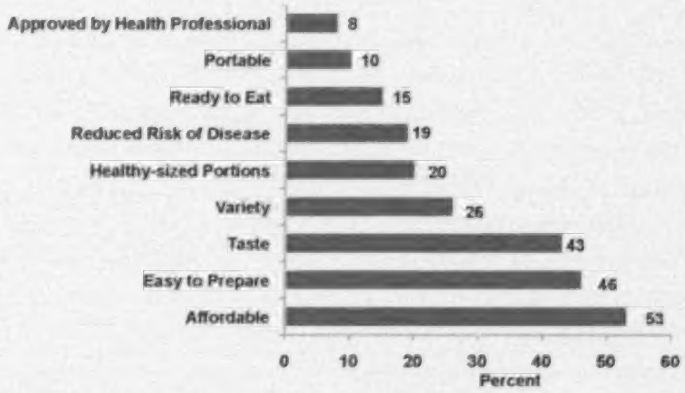


Source: Adapted from FAO Report: Global Food Losses and Food Waste; Extent, Causes and Prevention, 2011.

Affordability continues to be one of the most important considerations of Canadian consumers when purchasing healthier food items

According to the 2010 Health and Wellness Survey undertaken by The Nielsen Company, the three most important factors for Canadians when purchasing healthier food are affordability, ease of preparation and taste. The survey found that over 50% of respondents reported that affordability was important when making decisions to purchase healthy foods.

Chart C1.13
Factors that are Most Important in Canadian's Healthier Food Purchase Decisions, 2010

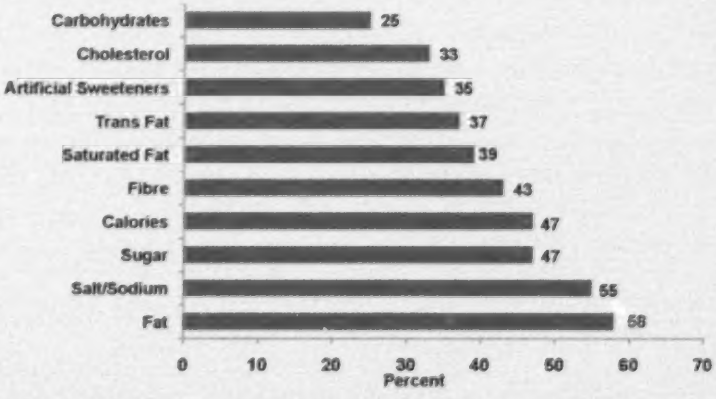


Source: The Nielsen Company of Canada was commissioned by Alberta Agriculture and Rural Development to conduct this study in 2012.

Canadians make use of food product labels to provide them with important information about their food.

The same survey also asked Canadians about the information they look for on product labels when purchasing food. According to this survey, more Canadians primarily look for ingredients such as fat or salt/sodium, with 58% of respondents looking for fat content and 55% looking for salt/sodium content. Fibre information, on the other hand, is sought by 43% of respondents reporting looking at food product labels.

Chart C1.14
What Information Canadians Look for When Reading Food Product Labels, 2010



Source: The Nielsen Company of Canada was commissioned by Alberta Agriculture and Rural Development to conduct this study in 2012.

SECTION C2

Food Distribution

(Retail/Wholesale and Foodservice)

Introduction:

The food retail/wholesale and foodservice industries are major components of Canada's agriculture and agri-food system. Food retailers are on the front lines, responding to changing consumer demands, a changing marketplace and changing players (e.g., Walmart). They achieve this by restructuring to maintain or increase their market share, while forming alliances and networks with upstream suppliers in the supply chain in order to assure the safety, quality and other characteristics of food products consumers demand.

Foodservice establishments also adjust product and service offerings to increase sales in response to a fiercely-competitive restaurant sector. They increasingly face competition from food retailers who are offering consumers convenience with an increasing variety of prepared foods and take-home meals.

Food retailing continued to consolidate as retail food sales grew and profit margins increased in 2011

Significant store rationalization has occurred over the past two decades, with a move to larger operations.

Traditional supermarket chains have consolidated as they have faced increased competition. In 2011, the total number of food stores continued to decline, down by 346 stores, to 20,661. The three-largest food retailers in Canada were Loblaw Cos. Ltd. ($31.3 billion in sales in 2011) with 1,046 stores across the country, Sobeys Inc. ($16.2 billion) with 1,575 stores, and Metro Inc. ($11.4 billion) with 564 stores in Ontario and Quebec.

Retail food and beverage sales rose from $84.5 billion in 2010 to $85.5 billion in 2011 an increase of 1.2%.

Chart C2.1
Number of Canadian Food Stores and Average Sales, 1990-2011*

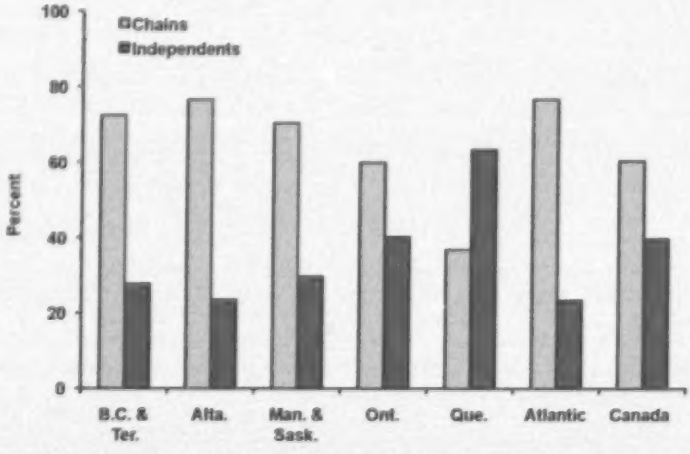
Source: Canadian Grocer, Statistics Canada and AAFC calculations.
Note: *2011 figures are estimates.

Supermarket chains dominate food store sales in all provinces except Quebec.

There are only two pan-Canadian grocery store chains in Canada, Loblaw Cos. Ltd. and Sobeys Inc. Overall, 60% of food store sales are made in grocery store chains in Canada. However, the relative importance of chains (as measured by the percentage of sales) varies greatly by province.

Chains are most important in the Atlantic Provinces (76.6%) and Alberta (76.5%) but much less important in Quebec (36.8%). In 2011, chains saw a slight increase in their share in most provinces, except Atlantic Canada and Ontario.

Chart C2.2
Share of Canadian Food Store Sales, Chains vs. Independents by Region, 2011



Source: Canadian Grocer Magazine, February 2012.

Note:
Store retailers (excluding non-store retailers) are divided into chain stores and non-chain stores. Chain stores are defined as operating four or more locations in Canada (within the same industry group and under the same legal ownership).

Food, soft drinks and other non-alcoholic beverages are increasingly sold in non-traditional retail outlets

General merchandise stores are increasingly selling food items, while traditional food and beverage stores (supermarkets) have expanded their non-food selections.

In 2011, sales of food and beverages in general merchandise stores accounted for 13.3% of the total food and beverage sales market, up from 7.6% in 1999. The share sold in supermarkets fell from 87.8% to 82% over the same period.

Food and beverage sales in general merchandise stores grew at an average annual rate of 12% over the past 5 years, well above the 4% average growth rate experienced by food and beverage stores (i.e. supermarkets). In particular, in 2011, food and beverage sales in food and beverage stores only grew by 1% over 2010 vs. 12% for general merchandise stores.

Chart C2.3
Food and Beverage Sales by Food Retail Channel, 1999 vs. 2011

Retail Channel	1999	2011
	Percent	
Food and Beverage Stores	87.8	82.0
General Merchandise Stores	7.6	13.3
Gas Stations and Automotive Dealers	2.5	2.1
Drug Stores	1.7	1.6
Other	0.4	1.0

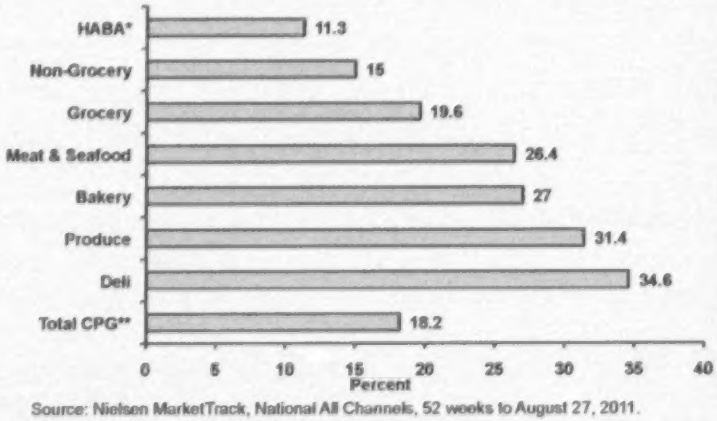
Source: Statistics Canada, Quarterly Retail Commodity Survey.

In 2011, private label products continued to account for a significant share (19.6%) of total grocery sales in Canada. During the recent recession, growth in private label product sales was flat in Canada, while in the U.S. they increased in importance.

Development of private label products remains a key competitive strategy for large retailers to attract and retain customers. In 2011, Loblaw Cos. Ltd. launched over 1,100 new private label products and redesigned and/or improved the packaging of approximately 500 products. Sales of private label products in 2011 were valued at $8.3 billion, accounting for 27% of total sales.

Private label brands accounted for a higher share of sales in the deli, produce and bakery departments of grocery stores at 34.6%, 31.4% and 27%, respectively. Private label brands grew (2%) more than name brand products (1%) in the grocery department between 2010 and 2011.

Chart C2.4
Private Label Share of Grocery Sales by Department, 2011

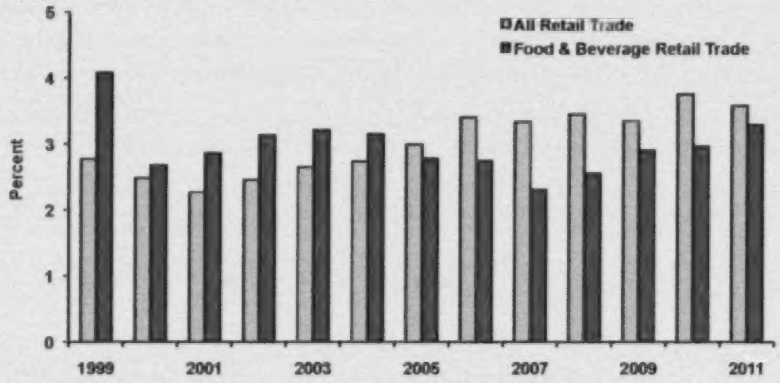


Source: Nielsen MarketTrack, National All Channels, 52 weeks to August 27, 2011.
Notes: Excludes random weight fresh.
* Health and Beauty Aids (HABA).
** Consumer Packaged Goods (CPG).

Profit margins of Canadian food and beverage retailers increased in 2011, but remained below those of all retailers.

Up until 2005, profit margins of all retailers were below those of food and beverage retailers, but have since risen above them. This reflects, in part, the increase in competition from traditional non-food retailers such as general merchandisers. The average profit margin for food and beverage retailers in 2011 was 3.3%, the highest rate since 1999.

Chart C2.5
Average Profit Margin Ratio* for Food and Beverage Retailers, 1999-2011



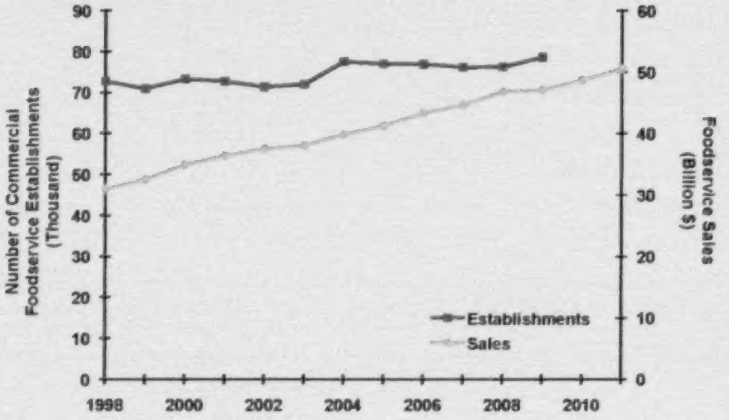
Source: Statistics Canada, Quarterly Financial Statistics for Enterprises.
Note: *See Glossary for definition of the profit margin ratio.
Does not include government-controlled co-operatives, for example LCBO, SAQ

Foodservice and restaurant sales resumed their trend upwards in 2011

Commercial foodservice (restaurants, etc.) sales have increased steadily over the last decade.

Commercial foodservice sales were valued at $50.6 billion in 2011, representing a 4% increase over 2010. In 2009, there were around 78,600 commercial foodservice establishments in Canada; 6% of which were in the Atlantic Provinces, 23% in Quebec, 40% in Ontario, 16% on the Prairies and 15% in British Columbia.

Chart C2.6
Commercial Foodservice Sales and Number of Establishments, 1998-2011



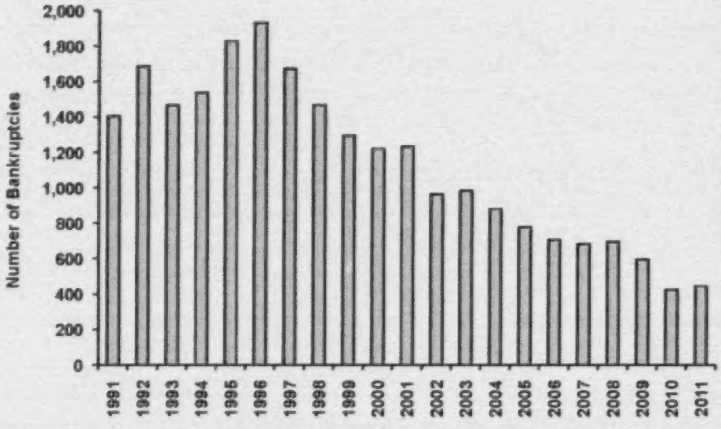
Source: Statistics Canada.
Note: Number of establishments data was discontinued and therefore not updated to 2011.

Commercial restaurant bankruptcies were up slightly in 2011 as consumers continued to tighten their belts.

The number of bankruptcies was up marginally in 2011, but still low by historical standards. Bankruptcies fell from a high of 1,933 in 1996 to a low of 446 in 2010, as an increasing share of restaurants are accounted for by major chains.

Full-service restaurants, which account for 45% of total commercial foodservice establishments, also accounted for three out of four commercial foodservice bankruptcies in Canada in 2011. This is primarily due to their higher labour costs, lower profit margins and fierce competition in the sector.

Chart C2.7
Commercial Restaurant Bankruptcies, 1991-2011

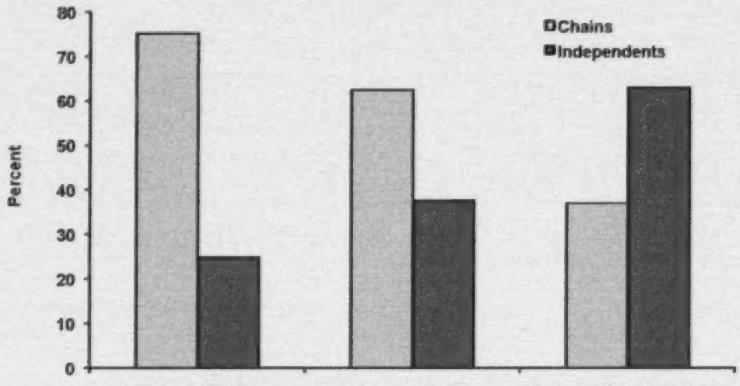


Source: Canadian Restaurant and Foodservice Association, Quarterly InfoStats.

Independent restaurants outnumbered chain restaurants in 2011, but accounted for a smaller share of total sales and customer traffic

There were almost twice as many independent restaurants in 2011 as there were chain restaurants in Canada. However, independent restaurants accounted for only 38% of total sales and 25% of customer traffic.

Chart C2.8
Foodservice Market Share Chains vs. Independents, 2011



Source: Canadian Restaurant and Foodservices Association.
Note: Traffic refers to the number of customer visits per year.
Data refers to chain and independent foodservice sourced from restaurants and retail stores.

Canadians spent more on restaurant meals at full-service restaurants compared to last year

For the second year in a row, sales at limited-service restaurants surpassed sales at full-service restaurants. Growth in 2011 was higher for full-service restaurants, (4.4%) than for limited-service restaurants (4.1%).

In 2011, total foodservice sales, which includes commercial and non-commercial foodservice, were estimated at $63.4 billion, up 4% over 2010. The foodservice channels which experienced the most robust growth were accommodation foodservice (5.7%), contract and social caterers (5.3%), as well as full-service restaurants (4.4%). Pubs, taverns and nightclubs was the only segment to experience a decline (-1.6%).

Chart C2.9
Market Share by Foodservice Category, 2011

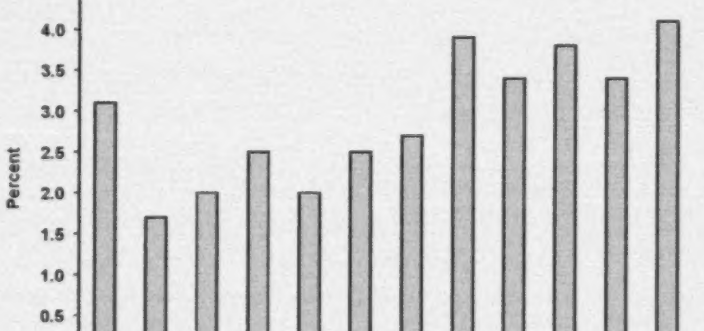
2011	(Million $)	Percent
Commercial Foodservice	**50,558**	**80**
Limited-Service Restaurants	22,083	35
Full-Service Restaurants	21,835	34
Contract and Social Caterers	4,207	7
Pubs, Taverns and Nightclubs	2,433	4
Total Non-Commercial Foodservice*	**12,889**	**20**
Accommodation Foodservice	5,503	9
Institutional Foodservice	3,775	6
Retail Foodservice	1,307	2
Other Foodservice**	2,304	4
Total Foodservice	**63,447**	**100**

Source: Statistics Canada, Canadian Restaurant and Foodservices Association and AAFC calculations.
Note: *Non commercial figures are preliminary.
** Includes vending, sports/private clubs, theatres, stadiums and other seasonal/ entertainment operations.

In 2010, profit margins rebounded for foodservice and drinking places.

Foodservice and drinking places saw an increase in average profit margins, up from 3.4% in 2009 to 4.1% in 2010. Profit margins for foodservice and drinking places have generally trended upward during the last decade, from a low of 1.7% in 2000 to a peak of 4.1% in 2010.

Chart C2.10
Profit Margins for Foodservice and Drinking Places, 1999-2010



Source: Statistics Canada, Financial and Taxation Statistics for Enterprises, annual.

Note(s):
The foodservice and drinking places subsector, according to Statistics Canada, comprises establishments primarily engaged in preparing meals, snacks and beverages to customer order for immediate consumption on and off the premises. This subsector does not include foodservice activities that occur within establishments such as hotels, civic and social associations, amusement and recreation parks, and theatres. However, leased foodservice locations in facilities such as hotels, shopping malls, airports and departments stores are included. The industry groups within this subsector reflect the level and type of service provided.

SECTION C3

Food and Beverage Processing

Introduction:

The Canadian food and beverage processing industry is the link between farmers producing agricultural products and retailers, foodservice and consumers who are purchasing food products. This industry, which transforms primary products and adds value to processed goods, has become increasingly integrated upstream with farmers and downstream with retailers in both domestic and global markets. This is done in an effort to provide consumers with the products and attributes they demand. The industry has faced recent challenges arising from exchange rate appreciation, commodity price volatility, tight labour markets and the recent global economic recession, affecting input costs, export demand and competitiveness.

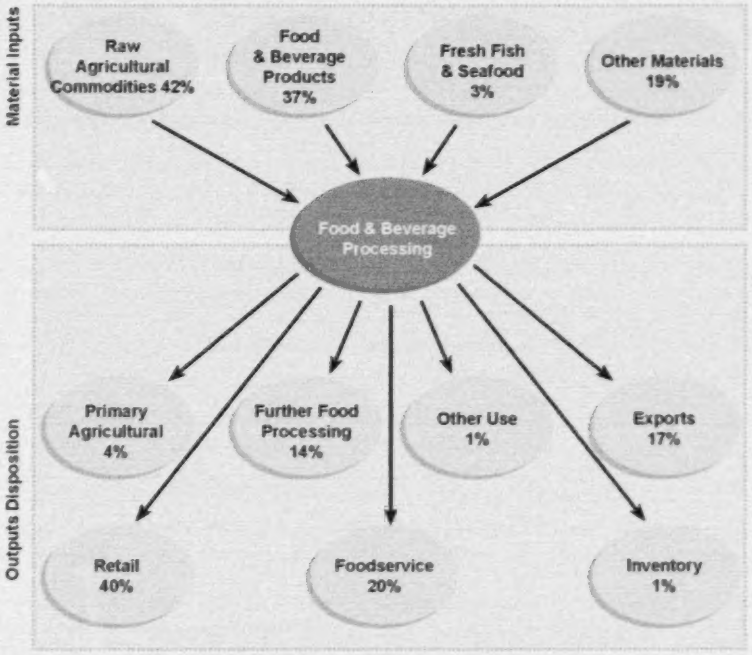
The food and beverage processing industry is a large, diverse component of the agriculture and agri-food system, playing a key role in the transformation of agricultural commodities into food, feed and non-food products that are sold in Canada and around the world

Raw agricultural commodities account for about 42% of the total value of material inputs used by the food and beverage processing industry in Canada.

Processed inputs from the food and beverage processing industry make up another 37%, while fresh fish and seafood account for 3% of these material inputs. The remaining 19% are largely composed of other materials such as packaging materials, energy, chemical additives and ingredients.

In terms of how these processed products are used, almost half (40%) of the output from the food and beverage processing industry is sold to Canadian food retailers, 20% is sold to domestic foodservice providers, 14% is sold to other food processors for further processing and 17% is destined for export markets to buyers around the world. The remaining shares are used by other industries in the system i.e. primary agriculture (4%), or other industries (1%).

Chart C3.1
Food Processing Input Composition and Output Disposition, 2008



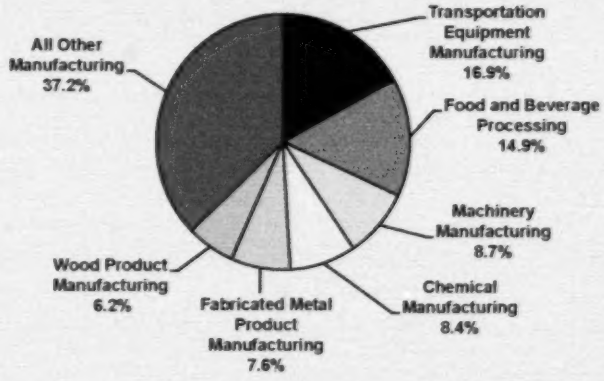
Source: Statistics Canada Input/Output Model and AAFC calculations.
Note: Does not add up to 100% due to missing confidential data.

The food and beverage processing industry is one of the top manufacturing industries in Canada

The food and beverage processing industry was the second largest manufacturing industry in Canada in 2011, as measured by its share of total manufacturing GDP.

Food and beverage processing GDP accounted for 14.9% of total manufacturing GDP at $23.9 billion, second only to transportation equipment manufacturing, which represented 16.9% of the total at $27.1 billion.

Chart C3.2
Distribution of Total Manufacturing GDP by Sector, 2011

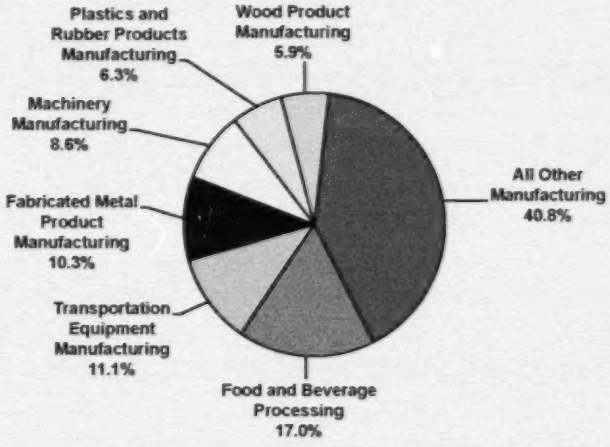

Transportation Equipment Manufacturing 16.9%
Food and Beverage Processing 14.9%
Machinery Manufacturing 8.7%
Chemical Manufacturing 8.4%
Fabricated Metal Product Manufacturing 7.6%
Wood Product Manufacturing 6.2%
All Other Manufacturing 37.2%

Source Statistics Canada.

Based on its share of total manufacturing employment, food and beverage processing ranks first, ahead of transportation equipment manufacturing.

Food and beverage processing's share of total manufacturing employment was 17% in 2011, employing 251,811 workers, while that of transportation equipment manufacturing was 11.1% of the total, employing 164,570 workers.

Chart C3.3
Distribution of Total Manufacturing Employment by Sector, 2011

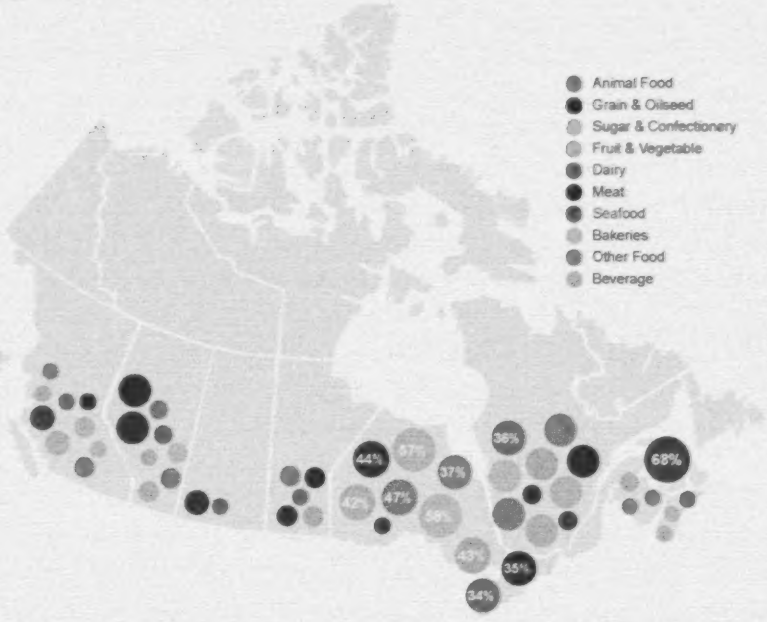

Plastics and Rubber Products Manufacturing 6.3%
Wood Product Manufacturing 5.9%
Machinery Manufacturing 8.6%
All Other Manufacturing 40.8%
Fabricated Metal Product Manufacturing 10.3%
Transportation Equipment Manufacturing 11.1%
Food and Beverage Processing 17.0%

Source: Statistics Canada.

Food and beverage processing has a presence in all regions, with most establishments located in Ontario and in Quebec.

Almost 9,000 food and beverage processing establishments (7,935 food processing and 1,000 beverage establishments) were operating across Canada in 2010, down by almost 10% since 2004.

Chart C3.4
Provincial Contribution to Canadian Food and Beverage Processing Shipments by Sub-Industry, 2010

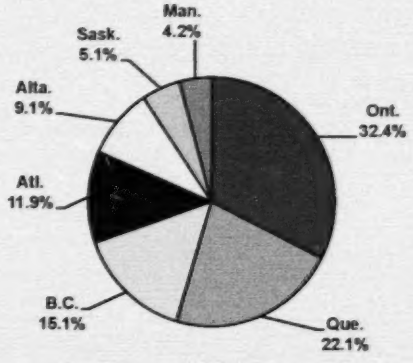


Source: Statistics Canada, Annual Survey of Manufacture and Logging (2010), and AAFC estimates.
Note: Industry representation does not necessarily equal 100% across Canada. Shares of less than 4% are not represented. Atlantic data is aggregated.

Over one-half of these establishments were located in Ontario (32.4%) and Quebec (22.1%).

A large number of these establishments in Quebec and Ontario were in dairy and meat product manufacturing, bakery and tortilla manufacturing and vegetable preserving. The other provinces with important food processing industries included British Columbia (at 15.1%), the Atlantic region (11.9%) and Alberta (9.1%).

Chart C3.5
Distribution of Food and Beverage Processing Establishments by Province, 2010



Source: Statistics Canada and AAFC calculations.

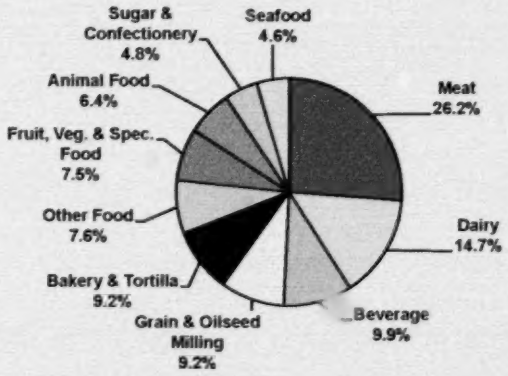
The Canadian food and beverage processing industry produces a wide variety of products and employs a significant number of workers

In 2011, processed meat and dairy products and beverages collectively accounted for over one-half of the $92.8 billion in total food and beverage processing shipments.

By shipments, the largest food and beverage processing industry is meat products (26.2%), followed by dairy products (14.7%) and beverage processing (9.9%).

Grain and oilseed milling and bakery and tortilla manufacturing, at 9.2% of shipments each, were also important food processing industries distributed across the country.

Chart C3.6
Distribution of Food and Beverage Processing Shipments by Sub-Industry, 2011

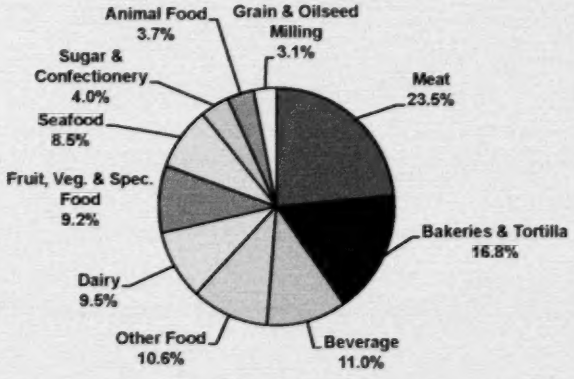


Source: Statistics Canada and AAFC calculations.
Note: Data is preliminary based on the Monthly Survey of Manufacturers (MSM).

About 40% of employment in food and beverage processing is accounted for by the processed meat product and bakery and tortilla sub-industries.

Beverage and other food processing sub-industries, such as snack food and coffee and tea manufacturing, also employed a substantial share of sector employment, at approximately 11.0% each.

Chart C3.7
Food and Beverage Processing Employment by Sub-Industry, 2011



Source: Statistics Canada and AAFC calculations.

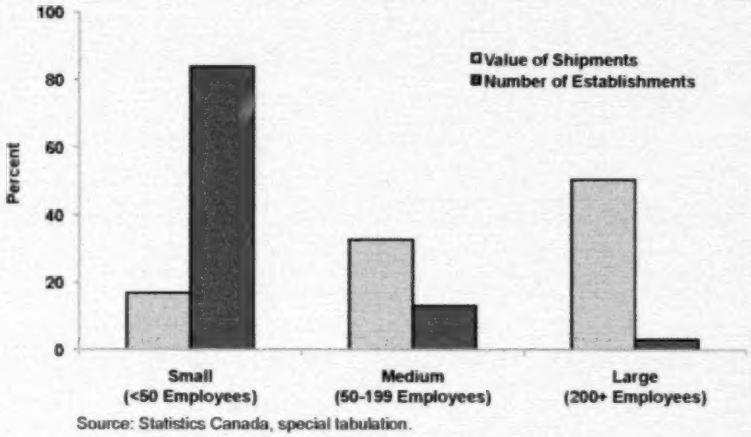
Most food processing establishments are small, with fewer than 50 employees, but large food processing establishments account for the bulk of production

In 2009, small establishments comprised 84% of the total number of establishments, but accounted for only 17% of the total value of shipments.

Large food processing establishments, while small in number as a share of the total, produced the bulk of output. In 2009, they comprised only 3% of the total number of establishments, but accounted for 50% of the value of shipments.

Medium-sized food processing establishments accounted for the remaining 13% of establishments and 33% of shipments.

Chart C3.8
Distribution of Food Processing Shipments and Number of Establishments by Employment Size, 2009



Source: Statistics Canada, special tabulation.

The food and beverage processing industry continues to restructure and consolidate over time as it adjusts to market conditions to remain profitable

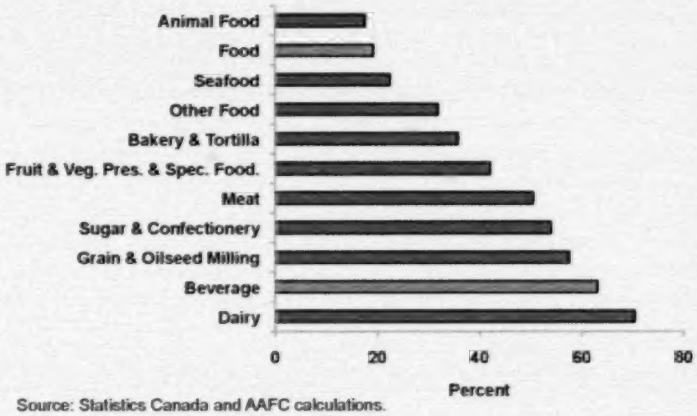
Concentration ratios vary across food and beverage processing sub-industries from dairy processing, the most-concentrated to seafood and animal food processing, the least-concentrated sub-industries.

The Canadian food and beverage processing industry has undergone significant structural changes since the early 1990s and has become increasingly concentrated, especially in the dairy, grain and oilseed milling and beverage processing sub-industries.

In 2009, the four largest food and beverage processing establishments accounted for 42% of sales. By sub-industry, the four largest dairy product processing establishments accounted for over 70% of sales, while the top four beverage processing establishments and grain and oilseed milling establishments accounted for 63% and 58% of sales, respectively. On the other hand, the top four seafood and animal food processing establishments accounted for only 22% and 18% of sales, respectively.

Chart C3.9

Concentration Ratios (CR4) in the Food and Beverage Processing Sub-Industries,
2009



Source: Statistics Canada and AAFC calculations.

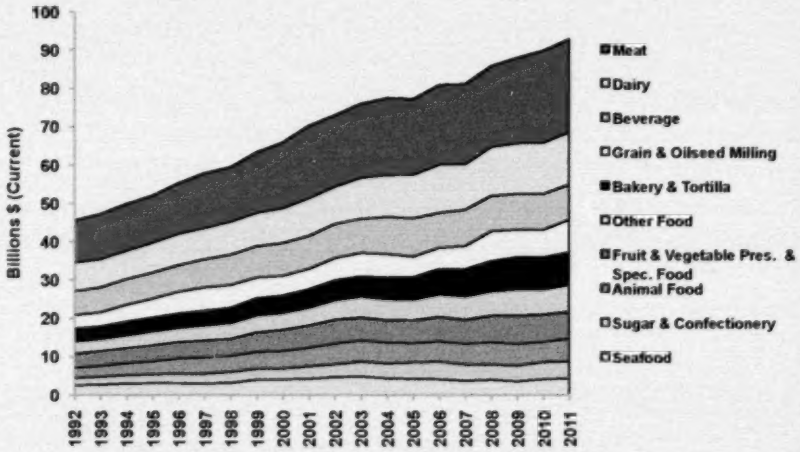
Food and beverage processing industry shipments have increased steadily since the early 1990s, with some sub-industries growing faster than others

Since 1992, the value of food and beverage processing shipments almost doubled, to $92.8 billion.

In 2011, shipments of grain and oilseed milling industries were almost 2.5 times higher than in 1992, representing the fastest growth in any of the food and beverage processing industries. Grain and oilseed milling shipments were up in 2011 after having declined in 2010 when flooding on the Prairies reduced crop production.

The largest industry, as measured by shipments, is processed meat products, followed by dairy products and beverage processing.

Chart C3.10
Food and Beverage Processing Shipments, 1992-2011

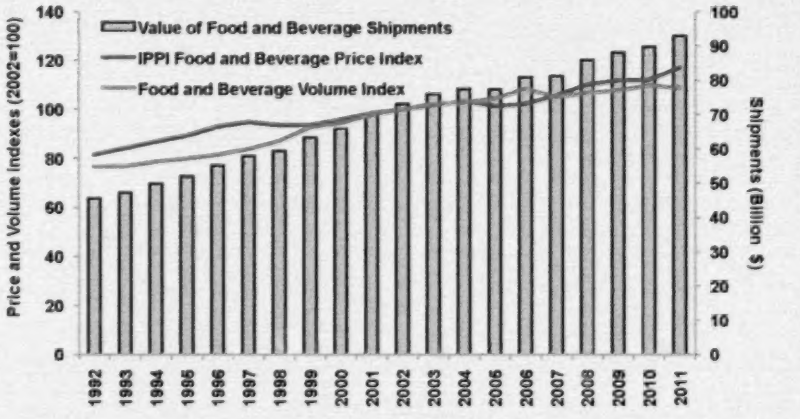


Source: Statistics Canada and AAFC calculations.
Note: The data used is derived from the Monthly Survey of Manufacturers (MSM).

When the value of shipments is broken down into its price and volume components, volume is down slightly in 2011.

The value of Canadian food and beverage processing shipments increased from $45.5 billion in 1992 to $92.8 billion in 2011. Prices, as measured by the Industrial Product Price Index for food and beverage processing, increased steadily since the early 1990s at the same time as volumes grew. More recently, since 2007, prices have grown faster than volumes and in 2011 this trend continued.

Chart C3.11
Food and Beverage Processing Shipments and Price and Volume Indexes, 1992-2011



Source: Statistics Canada and AAFC calculations.

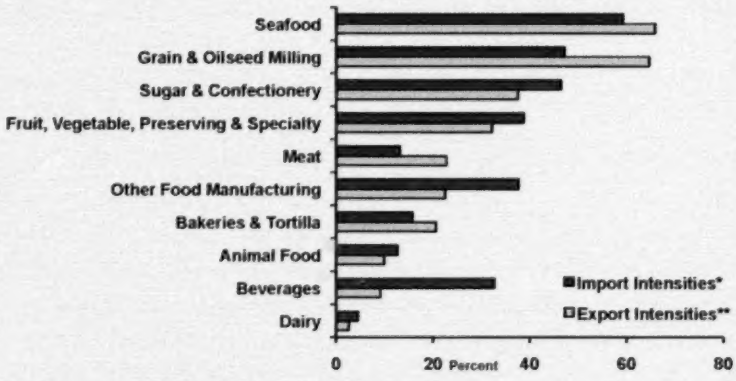
The Canadian food and beverage processing industry, as a whole, sells three-quarters of its products in the domestic market, with some sub-industries more export focused than others

On average, exports accounted for about one-quarter of the value of food and beverage processing shipments in 2011, while food and beverage processing imports accounted for one-quarter of the value of sales in the domestic market.

Export intensity measures the relative importance of exports to an industry's overall shipments. Import intensity measures the relative importance of imports to the overall value of sales in the domestic market.

Seafood processing and grain and oilseed milling were more export oriented, but also dependent on imports, than most other food and beverage processing sub-industries. Dairy, beverage and animal food processing were much less export oriented, and hence focused on the domestic market. Meat processing was relatively export oriented and less import dependent.

Chart C3.12
Food and Beverage Processing's Import & Export Intensities, by Sub-Industries, 2011



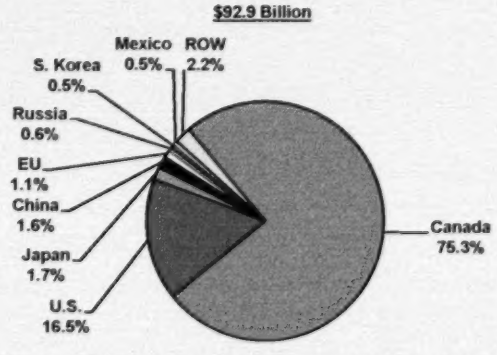
Source: Statistics Canada and AAFC calculations.
Note: *Calculated as imports/(shipments-exports+imports).
**Calculated as exports as a share of shipments.

By destination, the U.S. is the most important export market for Canadian processed food and beverage products.

In 2011, 75.3% of shipments were destined for the domestic market, while the U.S. accounted for 16.5% of total shipments.

Japan and China, at a mere 1.7% and 1.6% of shipments, respectively, were the next most important shipment destinations. This was followed by the EU (1.1%) and Russia (0.6%).

Chart C3.13
Destinations of Food and Beverage Processing Industry Shipments, 2011



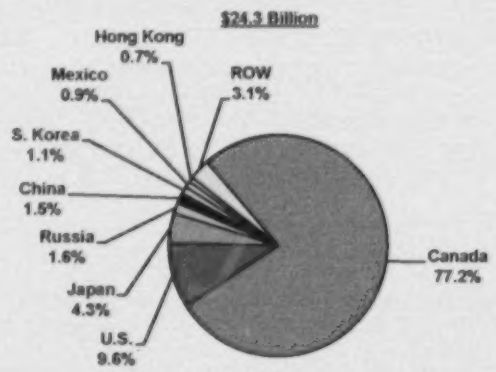
Source: Statistics Canada and AAFC calculations.

For meat product processing and bakery and tortilla product manufacturers, the U.S. market is the most important shipment destination after the domestic market

In 2011, meat product processors sold 77.2% of their products in the Canadian market and exported 22.8% abroad.

The largest export markets for processed meat products included the U.S. (9.6%) and Japan (4.3%).

Chart C3.14
Destinations of Meat Product Processing Industry Shipments, 2011

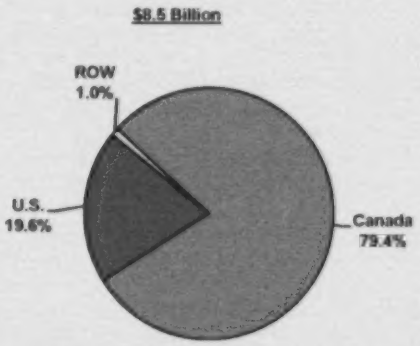


Source: Statistics Canada and AAFC calculations.

Bakery and tortilla product processors sold 79.4% of their shipments to Canadian consumers.

Of the 20.6% of shipments that were exported, the U.S. market accounted for the bulk at 19.6%, with the rest of the world only accounting for 1.0% of shipments. Many bakery and tortilla product manufacturers are found in local bakeries and retail supermarkets, selling directly to consumers.

Chart C3.15
Destinations of Bakery and Tortilla Processing Industry Shipments, 2011

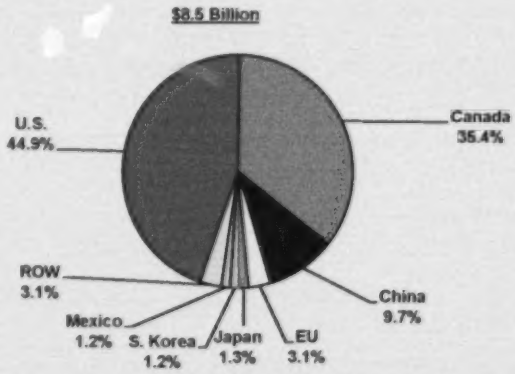


Source: Statistics Canada and AAFC calculations.

The destinations for shipments of grain and oilseed milling and seafood product industries were more diversified

A small percent (35.4%) of grain and oilseed shipments were sold in the domestic market, while the main destination for grain and oilseed milling exports from Canada was the U.S. (44.9%). China accounted for an additional 9.7% of the value of shipments, followed by the EU at 3.1%.

Chart C3.16
Destinations of Grain and Oilseed Milling Industry Shipments, 2011



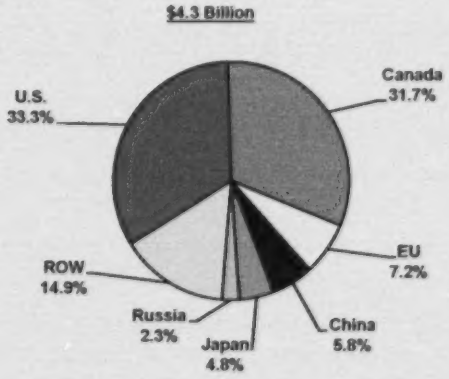
Source: Statistics Canada and AAFC calculations.

The seafood processing industry has the greatest reliance on trade with roughly two-thirds of the value of shipments exported in 2011, and only 31.7% sold domestically.

The U.S. was the most important export destination for seafood processing industry shipments at 33.3%, compared to 31.7% being sold in the domestic market. The next-largest export destination was the EU at 7.2% of shipments.

Other important markets included China (5.8%), Japan (4.8%) and Russia (2.3%).

Chart C3.17
Destinations of Seafood Industry Shipments, 2011



Source: Statistics Canada and AAFC calculations.

A recent survey of food processing enterprises indicates the obstacles they face when exporting and how they respond to changing customer requirements at home and abroad

Food processors primarily reported facing obstacles related to cost requirements, distance, border security and trade barriers when exporting abroad.

The most important obstacle faced by exporters was meeting the cost requirements of customers. Over 65% of both food processing and total manufacturing enterprises reported facing this obstacle. For food processors, the other important obstacles to exporting were meeting border security requirements (at 65%) and dealing with foreign tariffs or trade barriers (at almost 60%). These were much less important obstacles to exporting for total manufacturers. Distance to customers was the next most important barrier to exporting for both food processors and other manufacturers at 58% and 53%, respectively.

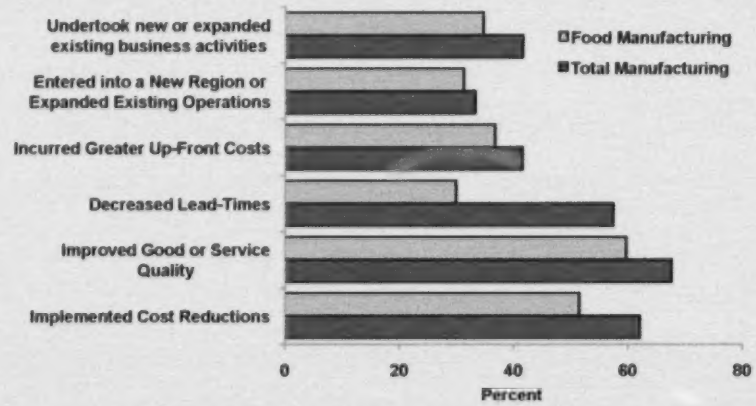
Chart C3.18
Percent of Enterprises Reporting Obstacles Faced When Exporting Outside of Canada, 2007-2009

Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009.

In order to meet customer requirements in both domestic and export markets, most food processors (60%) reported making a significant change by improving the quality of their products or services. This compares with 68% of total manufacturers who responded this way.

The next most important change food processors made was to implement cost reductions, at 52% of enterprises. For total manufacturers, 62% reported making this change.

Chart C3.19
Percent of Enterprises Reporting Significant Changes in Response to Customer Requirements, 2007-2009



Source: Statistics Canada, Survey of Innovation and Business Strategy, 2009

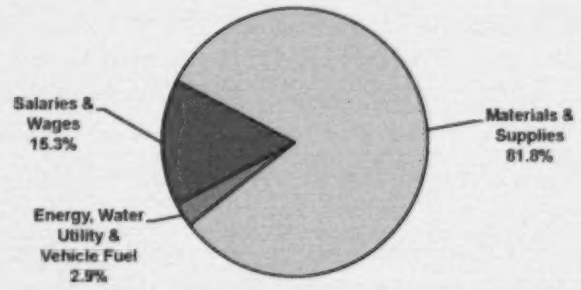
Given the importance of trade for remaining competitive, Canadian food and beverage processing industries need to manage their variable costs

Out of total variable costs in food and beverage processing, materials and supplies were by far the largest component, accounting for 81.8% of total variable costs in 2010.

Labour costs (salaries and wages) were the second most important cost at 15.3% of total variable costs, while energy, water, utilities and fuel accounted for another 2.9%.

The distribution of costs varies by sub-industry. For example, in beverage processing, labour costs were over 20% of the total, with energy, water, utilities and fuel accounting for almost 5% and materials, the remainder. In the bakery industry, labour costs were almost 30% of the total, while material costs accounted for about 67% of total costs.

Chart C3.20
Total Variable Input Costs in the Food and Beverage Processing Industry,
2010



Source: Statistics Canada and AAFC calculations.

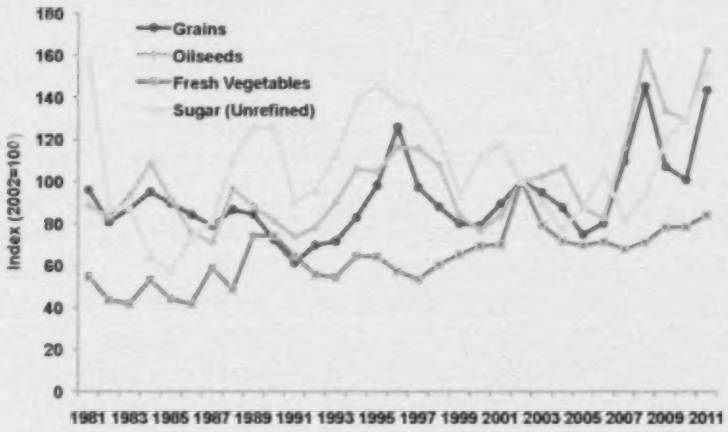
Note(s):
Total variable costs include all costs of production such as materials and supplies, energy and labour costs but exclude the cost of physical capital.

Pressures on material costs for the food and beverage processing industry increased in 2011, driven by another sharp rise in commodity prices

The cost of material inputs was affected by the price of raw materials, such as agricultural commodities and energy, which rose sharply in 2008 and 2011.

The Raw Materials Price Index (RMPI), which measures price changes for raw materials purchased by manufacturers in Canada as inputs for further processing, fell in 2009 and 2010 after the price spike of 2008, but increased sharply again in 2011. In particular, in 2011, the RMPI for sugar and grains increased at a faster pace than for other raw materials. The RMPI for oilseeds also increased sharply in 2011, while that of fresh vegetables increased more slowly.

Chart C3.21
Raw Materials Price Index for Grains, Oilseeds, Vegetables and Sugar, 1981-2011

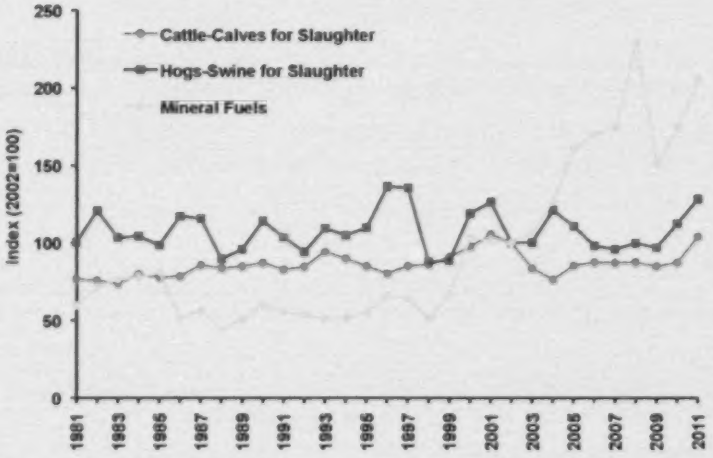


Source: Statistics Canada.

The Raw Materials Price Index (RMPI) for mineral fuels increased sharply in 2008 and again in 2011, while the price of cattle and hogs rose only recently after having been flat for several years.

The cost of raw materials tends to account for a larger share of variable costs for food processors compared to energy costs. Hence, stable prices for live animals were helpful for food processors' bottom line from 2006 to 2009. However, in 2011, the RMPI for cattle and calves for slaughter increased by 19% while the RMPI for hogs-swine for slaughter increased by 14%, putting upward pressure on food processors' costs.

Chart C3.22
Raw Material Price Index for Cattle, Hogs and Fuel, 1981-2011



Source: Statistics Canada.

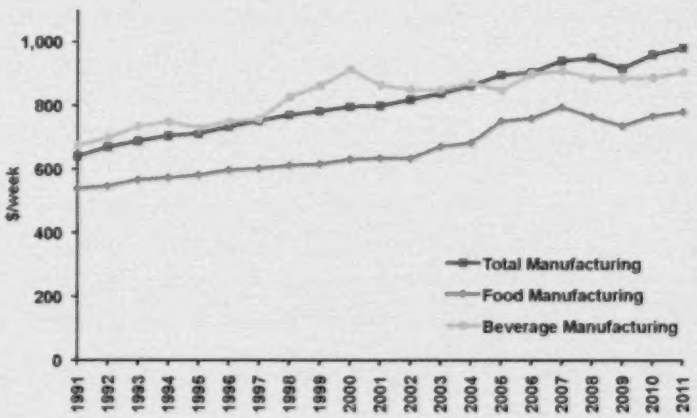
Labour costs, which are the second most important input cost in food processing, also contribute to the industry's cost competitiveness

Labour costs, which slowed more recently due to the economic recession, have resumed their trend upward in both food and beverage processing and in total manufacturing.

Tighter labour markets in the 2004 to 2006 period drove up wages and salaries in food processing, in particular, while those in beverage processing levelled off. During the 2008-2009 recession, average weekly earnings fell more dramatically in food processing than did those in total manufacturing, but have recovered slowly since 2009.

Average weekly earnings in food processing have remained consistently below those in total manufacturing and beverage processing since the early 1990s.

Chart C3.23
Average Weekly Earnings in Food and Beverage Processing and Total Manufacturing, 1991-2011



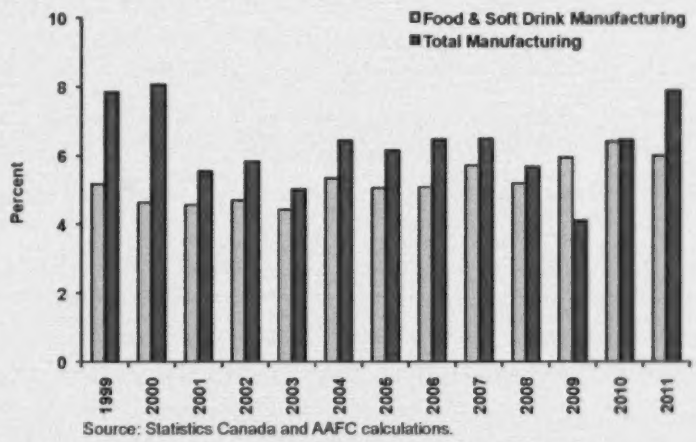
Source: Statistics Canada, special tabulation.

As a result of higher variable costs in 2011, food processors experienced lower profit margins and a higher debt to equity ratio

Profit margins in food and soft drink processing fell slightly in 2011, while those in the overall manufacturing sector increased sharply.

Profit margins in most manufacturing sectors rebounded in 2011 following recent lows during the recession. However, profit margins in food and soft drink processing, which outperformed the rest of the manufacturing industry during the recessionary period, have now weakened slightly.

Chart C3.24
Profit Margins in Food and Soft Drink Processing and Total Manufacturing
1999-2011

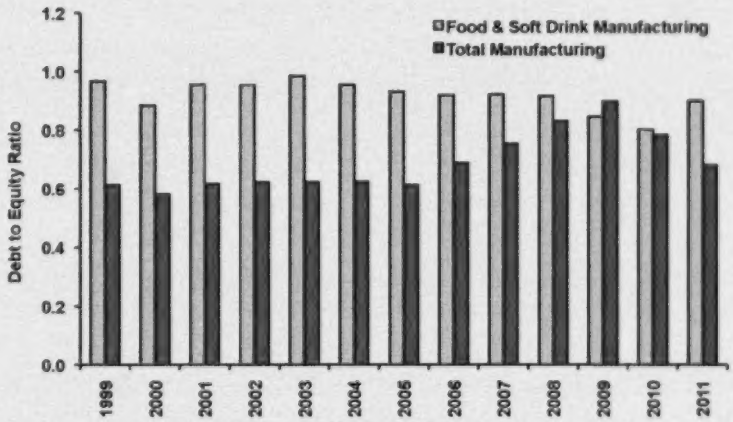


Source: Statistics Canada and AAFC calculations.

The financial positions of both the food and soft drink processing industry and total manufacturing are reflected in industry debt to equity ratios. The debt to equity ratio for food and soft drink processing rose in 2011 after having fallen in 2009 and 2010.

In contrast to food and soft drink processing, the debt to equity ratio for overall Canadian manufacturing continued to fall in 2011 as other manufacturers financed business investments through cash reserves rather than debt.

Chart C3.25
Debt to Equity Ratio* in Food and Soft Drink Processing and Total Manufacturing,
1999-2011



Source: Statistics Canada and AAFC calculations.
Note: * See glossary for definition of the debt to equity ratio.

Debt levels in the food processing industry rose as the industry sharply increased capital investments in 2011

Investment in new capital stock such as machinery and equipment and buildings is essential for helping the food processing industry modernize, improve efficiency, raise productivity and lower costs to remain competitive.

Investment in machinery and equipment in the food processing industry increased sharply in 2011, contributing to an increase in the industry's capital stock and capital-labour ratio.

The Canadian food processing industry's total investment in capital stock in constant dollar terms amounted to almost $1.7 billion annually, on average, over the 1990 to 2011 period.

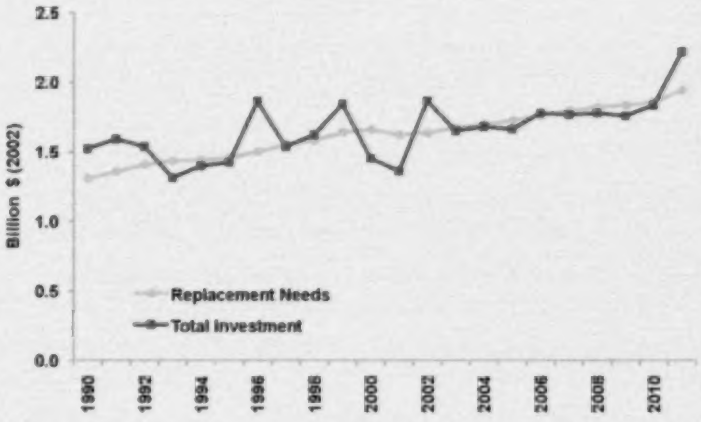
This is just slightly higher than the amount of investment required to replace depreciating capital stock (i.e. replacement needs). Despite an upturn in 2011, the industry's total capital stock has increased by only $33 million annually since the 1990s.

Capital stock in the food processing industry is the result of past capital investments and depreciation.

The stock of machinery and equipment in food processing rose sharply in the late 1980s and early 1990s before resuming a more steady increase throughout the 1990s and 2000s. In 2011, there was a sharp rise in capital investment in machinery and equipment, spurred in part by government incentives, record low interest rates and an appreciated Canadian dollar.

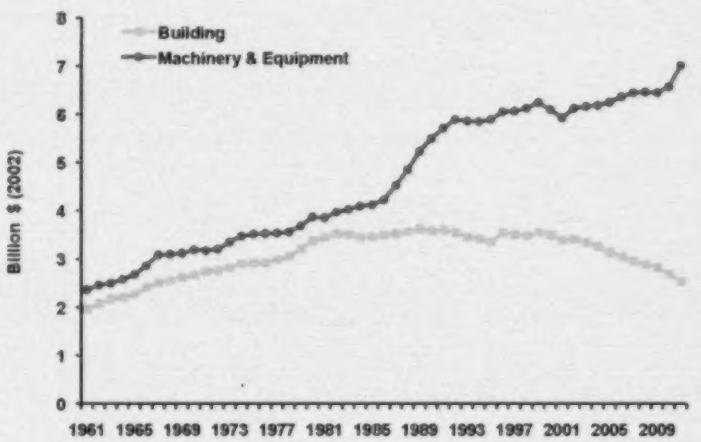
In the case of buildings, the food processing industry did not make sufficient investments to maintain its stock, leading to a decrease of $49 million annually in the real value of buildings. For machinery and equipment, the industry replaced both existing stocks and added an average of $81 million annually to the quantity of these assets.

Chart C3.26
Investment in Capital Stock in the Food Processing Industry, 1990-2011



Source: Statistics Canada.

Chart C3.27
Capital Stock in the Canadian Food Processing Industry, 1961-2011



Source: Statistics Canada.

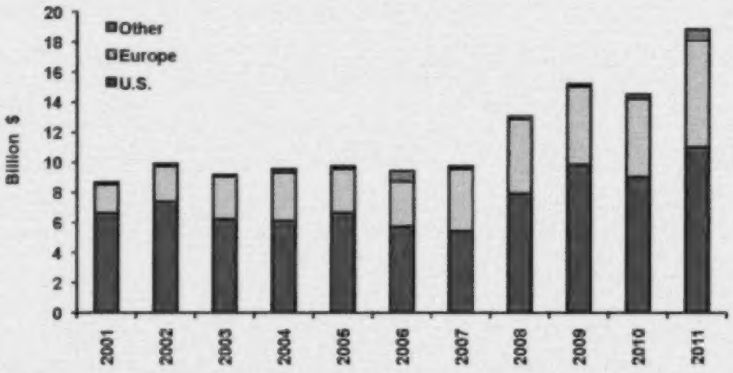
Note(s):
Capital stock is comprised of buildings, engineering structures, and machinery and equipment. Total investment in capital stock is made up of purchases needed to offset depreciation (replacement needs) and purchases to expand the capital stock. When replacement needs exceed investment, the capital stock falls, since the existing stock is not being maintained. When investment exceeds replacement needs, the stock increases.

Foreign direct investment (FDI) is an important source of capital investment and innovation in the Canadian food and beverage processing industry

The stock of inward FDI in Canadian food processing in 2011 totalled $18.9 billion. The U.S. accounted for 58.5% of Canada's stock of inward FDI for food processing, while Europe accounted for another 37.4%.

The stock of inward FDI from the U.S. rose fairly rapidly after 2007, while that from Europe increased steadily over the entire period from 2001 to 2011.

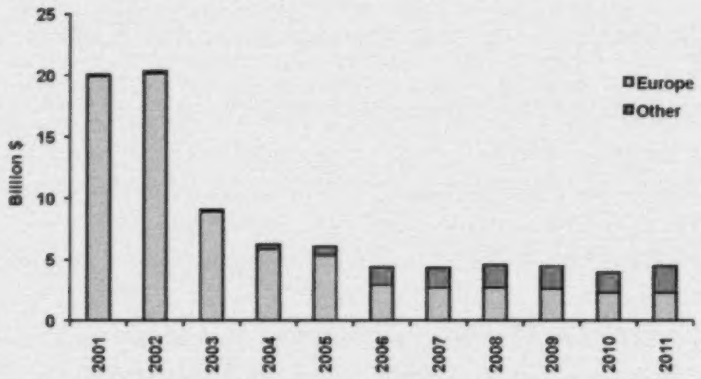
Chart C3.28
Stock of Inward FDI in the Canadian Food Processing Industry, by Country of Origin, 2001-2011



Source: Statistics Canada and AAFC calculations.
Note: Figures are estimates and subject to revisions by Statistics Canada.

The stock of FDI in the Canadian beverage and tobacco processing industry, which totalled $4.4 billion in 2011, originated mostly from Europe.

Chart C3.29
Stock of Inward FDI in the Canadian Beverage and Tobacco Processing Industry, by Country of Origin, 2001-2011



Source: Statistics Canada and AAFC calculations.
Note: Figures are estimates and subject to revisions by Statistics Canada.

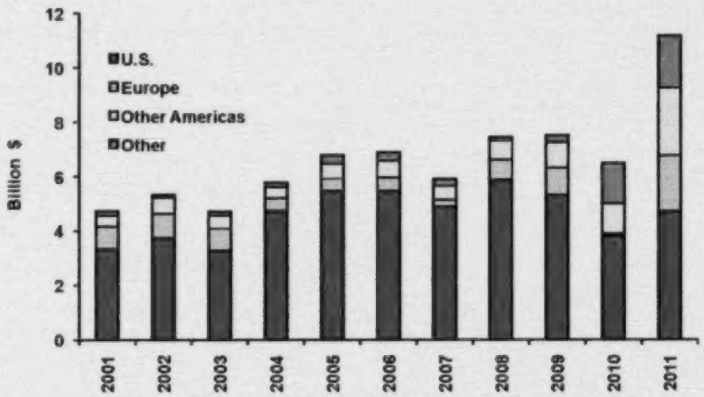
Note(s):
FDI refers to an investment made by a non-resident entity (an individual or a public or private enterprise) through investment, mergers and acquisitions or purchasing of shares, so as to obtain a 10% or greater equity stake in an enterprise resident in another country. Inward investment means investment into a Canadian entity by a foreign entity, while outward investment means investment made by a Canadian entity in a foreign entity.

Canadians have also been investing in food processing industries abroad

Canadian investments in the U.S. accounted for 42.2% of the total stock of Canadian outward FDI in food processing in 2011.

Preliminary data indicates that investments in all regions grew in 2011, with relatively large investments in Europe. In 2010, there was no investment activity into Europe from Canada.

Chart C3.30
Stock of Canadian Outward FDI in Food Processing Industries, by Country of Destination, 2001-2011



Source: Statistics Canada and AAFC calculations.
Note: Figures for the latest year are estimates and subject to revisions by Statistics Canada.

SECTION C4

Primary Agriculture

Introduction:

Agricultural producers are the foundation of the agriculture and agri-food system and have direct links to all stages in the supply chain. They contribute significantly to the economic growth and activity of the Canadian economy through these linkages. Developments in commodity markets and in other sectors in the chain, such as in production and price trends for farm inputs, food processing, food retail and foodservice, all have impacts on the structure and performance of primary agriculture. Recent commodity price volatility and increases have had both positive and negative impacts on this sector.

At a more disaggregated level, farmers are diverse with different business strategies and management skills, differing by farm size, type and region. This diversity explains the differences in performance between farms.

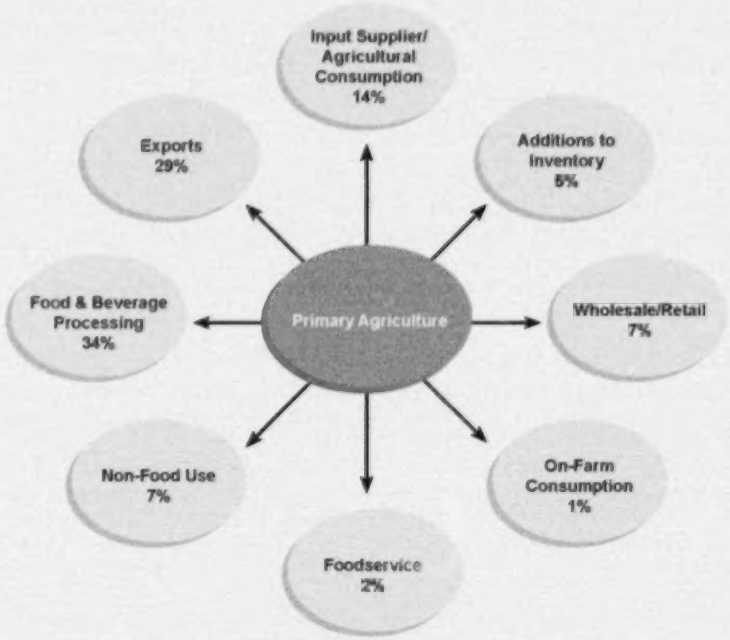
Agricultural producers have direct links to all the stages in the agri-food supply chain

Both upstream and downstream industries make use of agricultural production.

Thirty-four percent of the value of agricultural production available in Canada in 2008 was used by the Canadian food and beverage processing industry, the single most important market for agricultural products.

Agricultural producers have other alternative marketing choices. In 2008, 29% of farm production was exported directly (apart from that which was indirectly exported as processed food products), 14% was used by other primary agricultural producers as input (such as feed, seeds, etc.), and 7% was distributed directly to consumers through retail and on-farm sales (consisting mostly of fresh fruits and vegetables). Another 7% was directed to non-food uses (consisting mostly of nursery stock, flowers and other horticultural products for residential construction, consumers and bioproducts). An additional 2% went to foodservice providers.

Chart C4.1
Disposition of the Value of Agricultural Production, 2008



Source: Statistics Canada Input/Output Model and AAFC calculations.

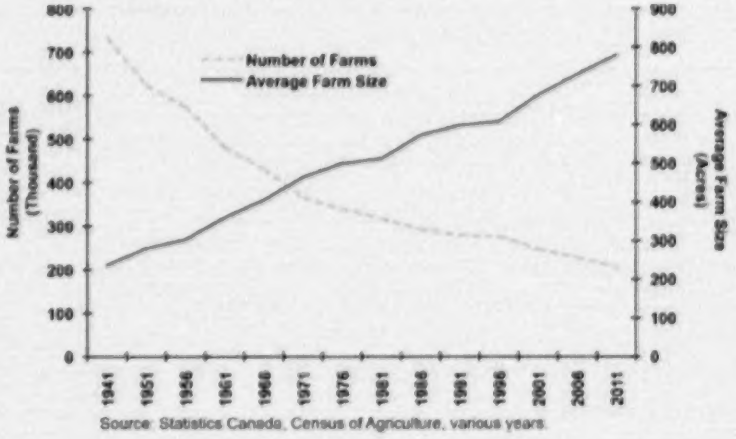
Primary agriculture is a modern, dynamic sector, which continues to restructure and adapt to changing global and domestic economic conditions

Over the past 70 years, average farm size has almost quadrupled, while the number of farms in Canada has declined.

In 2011, there were 205,730 farms, representing a 10.0% decline from 2006. This compares to a 7.3% decline between 2001 and 2006.

At the same time, the average farm size is becoming larger, rising from 237 acres per farm in 1941 to 779 acres in 2011. Technological advances and increased productivity growth have enabled an increasing scale of operation and consolidation.

Chart C4.2
Number and Size of Farms in Canada, 1941-2011

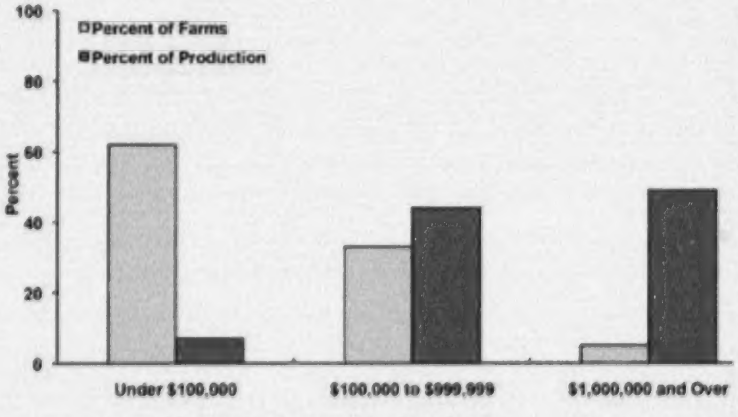


Source: Statistics Canada, Census of Agriculture, various years.

Larger farms continue to account for the majority of production.

In 2011, the smallest farms accounted for the largest share of farms, but a small proportion of gross farm receipts (2010 $). Small farms with revenues under $100,000 represented 62.2% of farms but only 7.0% of receipts. Medium to large farms ($100,000 to $999,999) accounted for 33.1% of farms but 44.0% of receipts. Million-dollar farms represented 4.6% of farms but 49.0% of receipts.

Chart C4.3
Distribution of Farms and Gross Farm Receipts (2010 $) by Revenue Class, 2011



Source: Statistics Canada, Census of Agriculture, 2011.

Canada produces a diverse set of commodities, which vary by province

In British Columbia, agricultural production is dominated by horticulture due to its milder climate and longer growing season.

The Prairie Provinces produce the bulk of Canada's cattle and grains and oilseeds. Alberta is the largest cattle-producing province, while Saskatchewan, Alberta and Manitoba are the largest canola and wheat-producing provinces, respectively.

Ontario and Quebec are the major dairy-producing provinces of Canada. Ontario also produces most of Canada's corn and soybeans, and Quebec is the largest pork producer.

In Atlantic Canada, horticulture production dominates, led by potatoes. Dairy production is also important.

Chart C4.4
Top Commodities by Province and Territory, 2011

Over time, the commodity mix has changed slightly by product and region

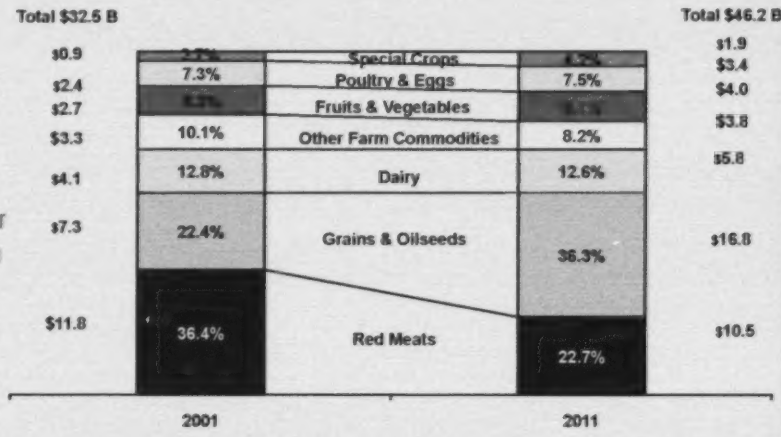
The distribution of market receipts across commodities has changed since 2001.

Market receipts in 2011, at $46.2 billion, were about $14 billion higher than in 2001. In 2011, grain and oilseed receipts rose as a share of the total because of increasing prices, while the importance of red meats fell.

Market receipts from special crops, which include pulses, beans, peas, mustard, sunflower and canary seeds, more than doubled between 2001 and 2011, while their market share increased from 2.7% to 4.2%.

Market receipts for poultry and eggs and dairy products, as a share of the total, remained stable over this period while that of fruits and vegetables, including potatoes, rose slightly.

Chart C4.5
Market Receipts by Commodity Share, 2001 and 2011



Source: Statistics Canada.
Note: 2011 data is preliminary.

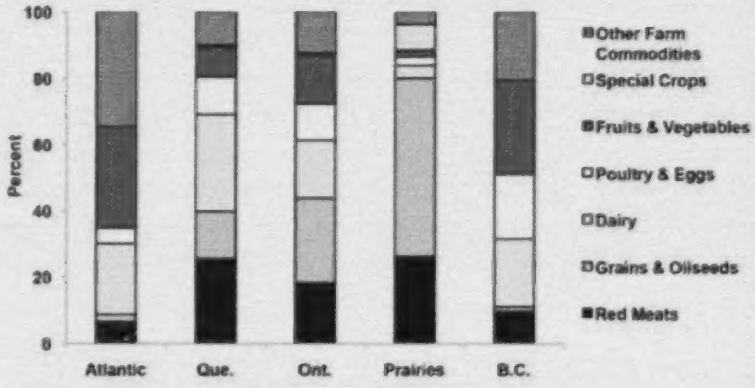
The distribution of market receipts among commodities varies by region and province.

On the Prairies, grains and oilseeds accounted for the largest share of provincial market receipts (53.8%), followed by red meats (26.2%). In British Columbia, fruits and vegetables accounted for 28.3% of that province's market receipts, while red meats and grains and oilseeds only accounted for 11.1% of market receipts.

In Quebec, dairy and red meats were more important, accounting for 29.3% and 25.5% of market receipts, respectively in that province. In Ontario, grains and oilseeds accounted for 25.6% of provincial market receipts, while dairy and red meats were less important at 17.4% and 18.3%, respectively.

In the Atlantic Provinces, fruits and vegetables accounted for 30.5% of that region's market receipts and other farm commodities accounted for 34.7% of provincial receipts in 2011.

Chart C4.6
Regional Market Receipts by Commodity Share, 2011



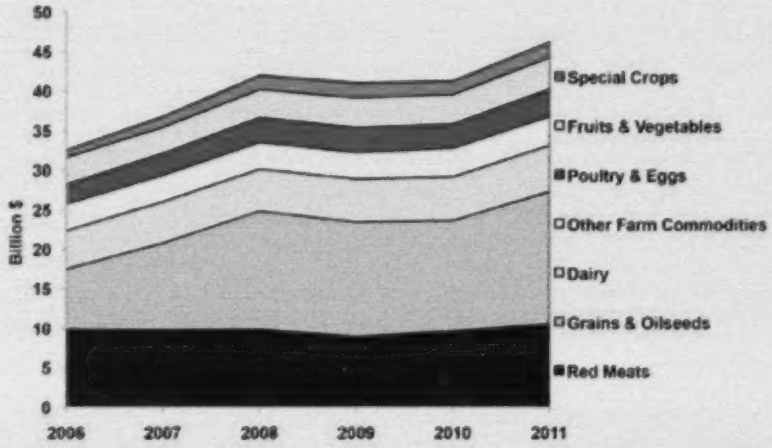
Source: Statistics Canada.
Note: 2011 data is preliminary.

Market receipts in 2011 were boosted by higher grain and oilseed prices and red meat prices

Market receipts, at $46.2 billion, rose 11.9% in 2011 compared to the previous year, and were 19.3% higher than the previous five-year average.

Special crop receipts rose 13.7% in 2011, while that of red meats increased by 8.8%. Grain and oilseed receipts were 20.3% higher than the previous year. Smaller increases were observed for dairy, poultry, fruits and vegetables and other farm commodities, which include forage and grass seed, hay, clover and honey.

Chart C4.7
Market Receipts by Commodity, 2006-2011

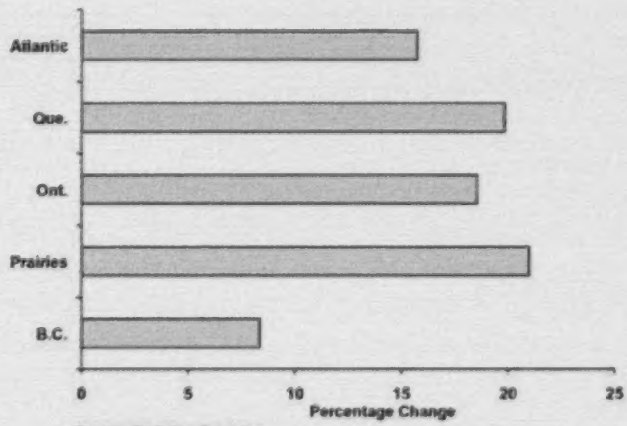


Source: Statistics Canada.
Note: 2011 data is preliminary.

By region, 2011 was a very strong year for producers in all regions of Canada. Receipts remained well above the previous five-year average (2006-2010) for all regions.

Quebec, Ontario and the Prairies experienced the largest gains in 2011, with market receipts in these provinces/regions averaging around 19.8% above the 2006-2010 average. Higher crop receipts contributed to most of the improvements in Ontario and on the Prairies, while both higher livestock and crop receipts drove the improvement in Quebec.

Chart C4.8
Regional Market Receipts, Relative to Five-Year Average, 2011



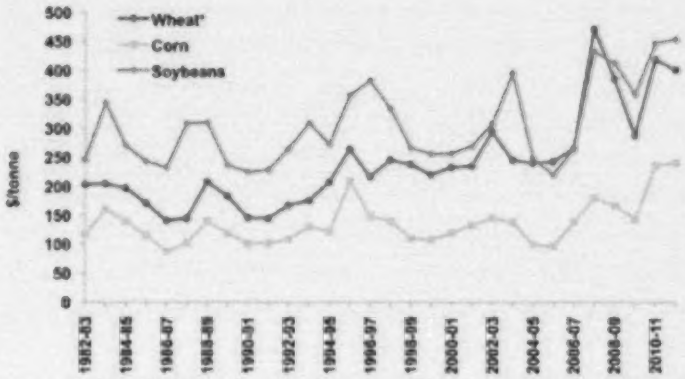
Source: Statistics Canada.
Note: 2011 data is preliminary.

Market receipts were affected by the recent rise in commodity prices

In 2011-12, prices of grains and oilseeds remained high, stimulated by continued world demand, the U.S. ethanol mandates and tight supplies due to difficult climatic conditions.

During this period, the appreciating Canadian dollar partially mitigated grain and oilseed price increases in Canada.

Chart C4.9
Canadian Corn, Wheat and Soybean Prices, 1982-83 to 2011-12



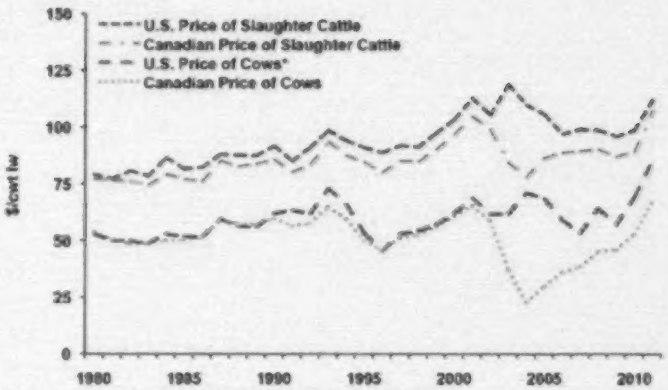
Source: AAFC.
Note: 1) * Canada Western Red Spring.
2) Data for 1982-83 to 1996-97 are AAFC estimates, based on prices for 1CWRS, 11.5% protein.

Lower inventories have boosted Canadian and U.S. cattle prices above historical peaks.

Historically, cattle prices in Canada and the U.S. have moved fairly consistently together. However, starting with the ban on trade in live cattle by the U.S., following the Bovine Spongiform Encephalopathy (BSE) outbreak in 2003, a gap in prices was created between Canada and the U.S.

With the resumption of trade in 2005 for cattle under 30 months of age, and in 2008 for animals over 30 months of age, the gap in prices narrowed. This trend continued in 2011, however, when the Canada-U.S. dollar exchange rate appreciated and exhausted cattle stocks pushed prices above historical cyclical peaks, narrowing the U.S./Canadian gap once again.

Chart C4.10
Cattle Price Cycle, 1980-2011



Source: USDA ERS, Canfax and AAFC calculations.
Note: * This series was terminated in 2008; the 2009-11 values are estimated from the annual growth of the National Direct Cow price.

Farm cash receipts grew more than expenses in 2011, leading to record high farm income

In 2011, farm cash receipts, which include direct program payments, grew sharply to $49.7 billion, up 12% over the previous year and 17% above its five-year average (2006-2010).

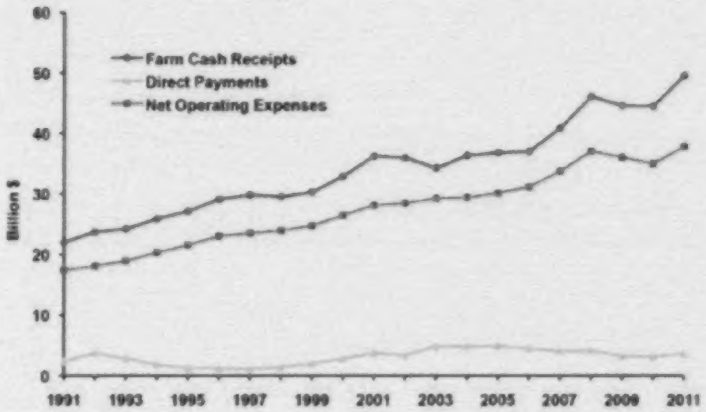
Farm cash receipts increased by 12% in 2011, following a small decline in 2010. This compares with the previous peak in 2008, when farm cash receipts registered an increase of 13% over the previous year.

Net operating expenses, which rose steadily throughout the 1990s and 2000s, increased by 10% in 2011, after having declined slightly in both 2009 and 2010.

Direct program payments reached $3.5 billion in 2011, after having declined to $3.1 billion in 2010. Direct payments are used to stabilize farm income and offset production losses from natural disasters.

Recent improvements in commodity prices, better climatic conditions in Canada, and higher margins have led to a general reduction in revenues from program payments in recent years.

Chart C4.11
Farm Cash Receipts, Direct Payments and Net Operating Expenses,
1991-2011

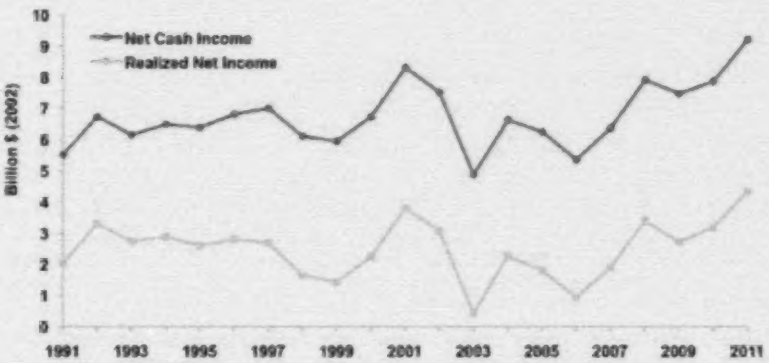


Source: Statistics Canada and AAFC calculations.
Note: 2011 data is preliminary.

After adjusting for inflation, real net cash income increased by 17% in 2011 over 2010.

Realized net income, after adjusting for inflation and depreciation, rose by 36% in 2011, following a 17% increase in 2010.

Chart C4.12
Realized Net Income and Net Cash Income,
(Adjusted for Inflation),
1991-2011



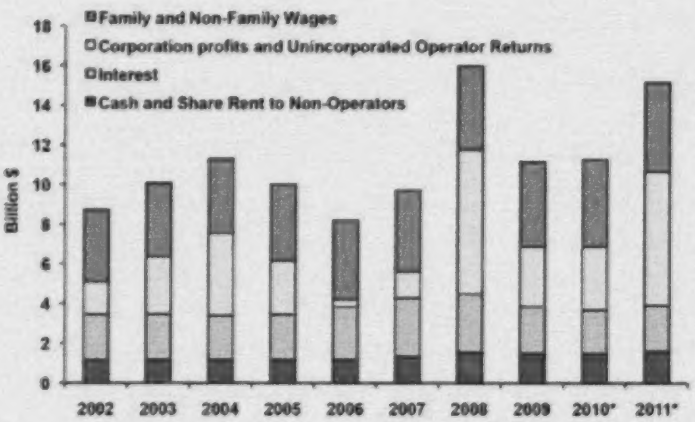
Source: Statistics Canada and AAFC calculations.
Note: 2011 data is preliminary.

Net value added in agriculture, another measure of sector performance, also improved in 2011

It is estimated that in 2011, net value-added in agriculture reached $15.2 billion, 34.6% higher than the previous five-year average, but down 5.2% from the record high in 2008.

Net value-added measures the value of economic production in the agriculture sector and reflects the return to all factors of production (e.g. rent to land, wages to labour and interest to capital). In 2011, interest to capital was 11.1% lower than the average over the 2006-2010 period, while all other categories were higher including cash and share rent to non-operators (13.2%), corporation profits and unincorporated operator returns (121.7%).

Chart C4.13
Net Value-Added in Agriculture*, 2002-2011

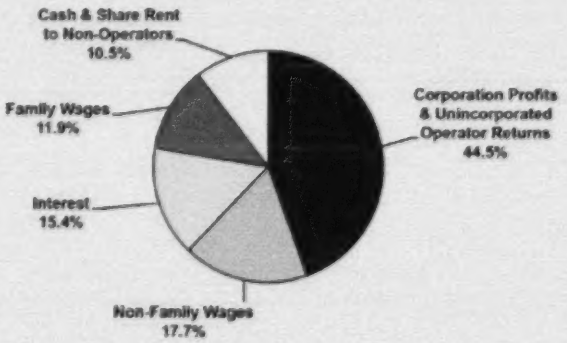


Source: Statistics Canada and AAFC calculations.
Note: *Estimated by AAFC.
2011 data is preliminary.

Corporation profits and unincorporated farm operator returns continued to account for the largest share of net value-added in 2011.

The share of net value-added that went to corporation profits and unincorporated operator returns reached $6.7 billion and accounted for 44.5% of net value-added in 2011. A lower share (10.5%) of value-added was distributed to non-operator landowners in the form of rent, at $1.6 billion. Interest amounted to $2.3 billion, accounting for 15.4% of total net value-added, while wages paid to family and non-family members at $4.5 billion accounted for 29.6% of net value-added.

Chart C4.14
Distribution of Net Value-Added in Agriculture, 2011*


Cash & Share Rent to Non-Operators 10.5%
Family Wages 11.9%
Interest 15.4%
Non-Family Wages 17.7%
Corporation Profits & Unincorporated Operator Returns 44.5%

Source: Statistics Canada and AAFC calculations.
Note: *Estimated by AAFC.
2011 data is preliminary.

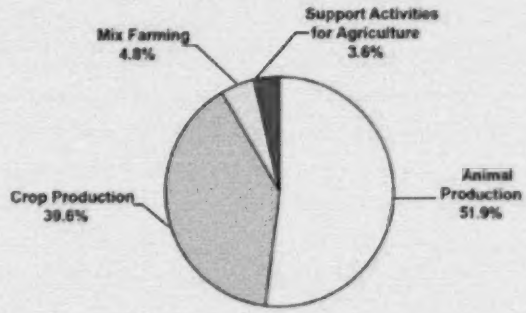
Note(s):
Net value-added in agriculture measures the value of economic production in the Canadian agriculture sector and is calculated by subtracting costs of production from the total value of agricultural sector production. It reflects the return to the various factors of production, including rent to non-operator landlords, interest to lenders and wages to family and non-family members, as well as profits to corporations and unincorporated operators.

The agriculture sector continues to depend heavily on farm labour, including farm family members and hired labour

In 2011, more than 305,000 people were employed in primary agriculture, making up almost 2% of the total Canadian labour force. This was up a modest 0.8% over 2010.

Employment in animal production accounted for the largest share of primary agriculture employment, making up 51.9% of the total, followed by crop production at 39.6% and mix farming at 4.8%.

Chart C4.15
Distribution of Primary Agriculture Employment, 2011



Source: Statistics Canada, Labour Force Survey and AAFC calculations.

Young Farmer Enterprises (YFEs), while small in number, are important for the future of the sector

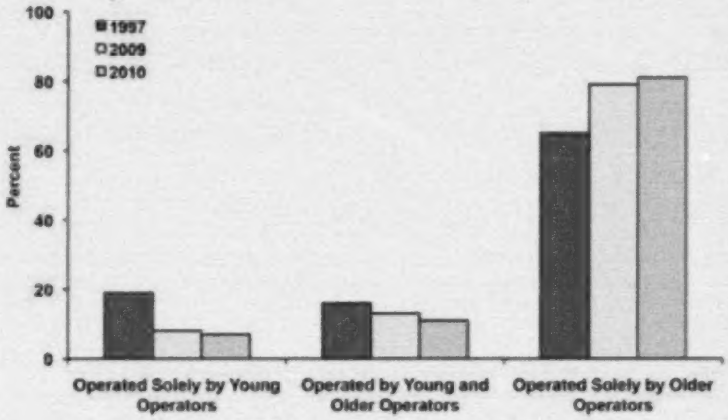
In 2010, 7.5% of Canadian farms were managed solely by young operators, who were between 18 and 39 years of age, with an average of 12 years of farming experience.

Between 1997 and 2010, the percent of farms operated solely by young farmers decreased, as the population aged. On the other hand, the percent of farms operated solely by older operators over 40 years of age increased to account for 81.2% in 2010. Farms with a mix of young and older operators fell to 11.4% of the total in 2010.

The decision to enter farming depends on many factors including ease of entry, access to capital and the expectations of further profitability. Attracting young farmers to agriculture is important since it can ensure that there will be a sufficient number of producers in the future.

Chart C4.16

Distribution of Farms by Young Operators and Older Operators, 1997, 2009 and 2010



Source: Statistics Canada, Farm Financial Survey 1998 ,2010 and 2011.
Note: Young farmers are defined as those operators between 18 and 39 years of age.

When all income sources are considered, YFEs earned more from both farm and non-farm sources than did other farm enterprises in 2010.

YFEs earned, on average, less than half of their family income from the farm and more from non-farm sources than did other farms. YFEs earned on average $58,142 from farm sources compared to $52,726 for other farms.

For non-farm income, YFEs earned $61,969 on average versus $58,380 for other farms. Other farms, on average, earned more income from investments and/or pensions, at $21,052 compared to $8,577 for YFEs.

As a result, total family income was higher for YFEs at $120,111 than for other farms at $111,106 in 2010.

Chart C4.17

Source of Farm Income for YFEs and Other Farms, 2010

Sources of income	YFEs	Other Farms
Family share of net operating income*	51,179	42,402
Farm wages & salaries paid to family	6,963	10,324
Total farm sources of income	58,142	52,726
Non-farm employment income	53,392	37,328
Other non-farm income (investment, pension etc.)	8,577	21,052
Total non-farm income	61,969	58,380
Total family income	120,111	111,106

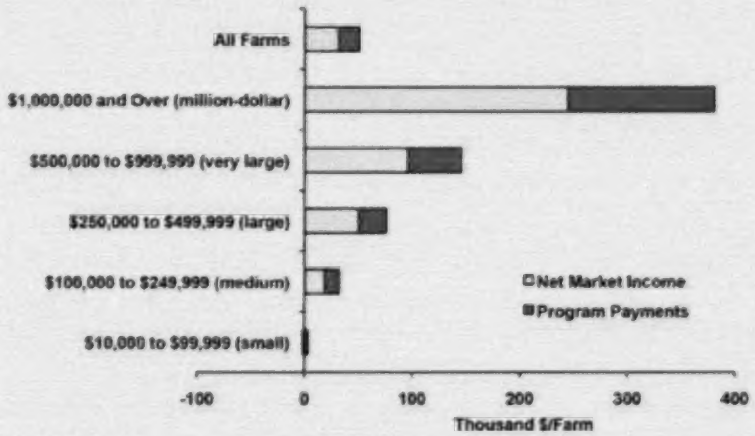
Source: Statistics Canada, Farm Financial Survey 2011.
Note: * Family share of net operating income before capital cost allowance.
Rounded to the nearest hundred.

Farm level performance, as measured by average net operating income, varies by farm size

In 2010, average net operating income was $51,000 per farm.

Average net operating income varied from $1,600 for small farms (with revenues of $10,000 to $99,999) to $380,400 for million-dollar operations. For these largest farms, 64.3% of their operating income came from the market with the remainder coming from program payments. For medium to very large farms (with revenues of $100,000 to $999,999), net market income was also the predominant source of income.

Chart C4.18
Average Net Operating Income by Revenue Class, 2010

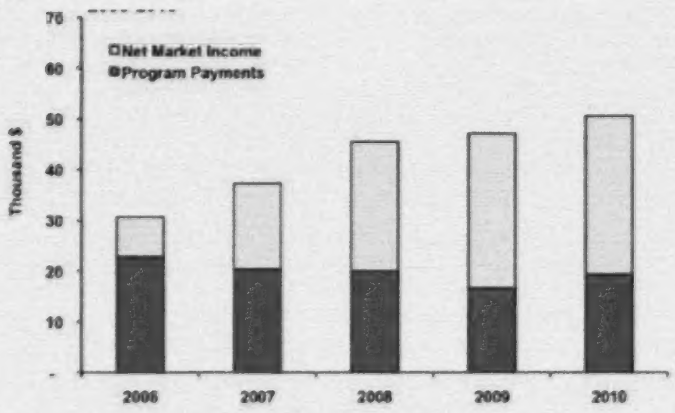


Source: Statistics Canada, Taxation Data Program.

Average net operating income also varies over time, as does the portion coming from the market.

In 2010, on average, almost two-thirds (61.7%) of the farm's operating income came from the market, as compared with only 25.4% in 2006.

Chart C4.19
Average Net Operating Income, 2006-2010



Source: Statistics Canada, Taxation Data Program

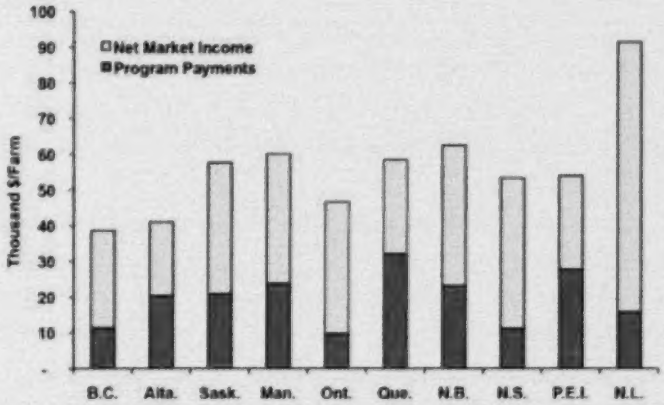
Similarly, average net operating income varies by farm type and province

British Columbia is the province with the lowest average net operating income as it tends to have the largest percentage of small farms.

Newfoundland and Labrador had the highest net operating income per farm in 2010, followed by New Brunswick and Manitoba.

The importance of program payments also differs by province. In 2010, Ontario received the lowest level of program payments per farm, while Quebec reported the highest due to differences in provincial farm support programs.

Chart C4.20
Average Net Operating Income by Province, 2010



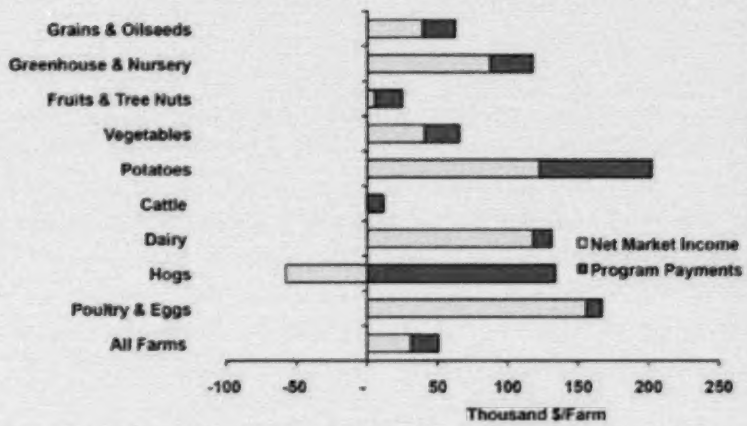
Source: Statistics Canada, Taxation Data Program

Average net operating income varies across farm types and is influenced, to a large degree, by prices and market conditions.

On average, potato, poultry and egg and dairy farms reported the highest average net operating income across farm types in 2010.

Cattle, and fruit and tree nut farms reported the lowest average net operating incomes. Hog farms, in particular, faced financial difficulty in 2010, as reflected in their negative market incomes, due to higher feed costs and reduced exports due to an appreciated dollar and Country of Origin Labeling (COOL) in the U.S. However, this was offset by significant program payments in 2010. Various government initiatives were put in place to help offset negative market revenues.

Chart C4.21
Average Net Operating Income by Farm Type, 2010



Source: Statistics Canada, Taxation Data Program.

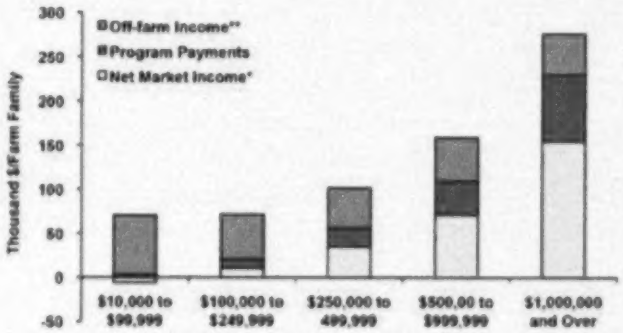
For Canadian farm families, income from off-farm sources continues to be important regardless of farm size

In 2010, farm families in all farm-size categories reported some off-farm income. However, families on small farms (with revenues between $10,000 and $99,999) tended to rely almost exclusively on off-farm income sources.

For these smaller farms, income from off-farm sources along with program payments help to offset negative or low net market income.

As farms get larger, however, farm families tend to report a larger share of their income from the market and/or program payments versus off-farm sources.

Chart C4.22
Average Income of Farm Families by Source of Income (Unincorporated Farms), 2010

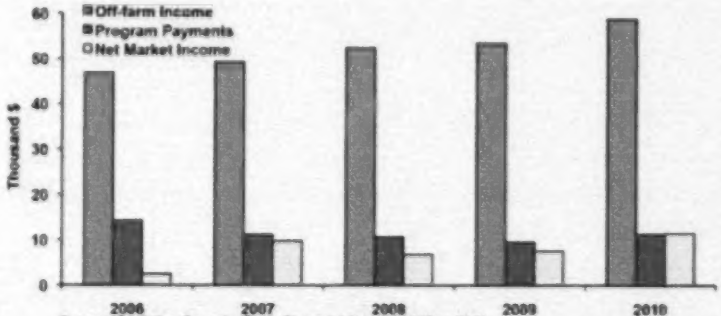


Source: Statistics Canada, Farm Financial Survey 2011.
Note: * Net market income does not include capital cost allowance.
** Off-farm income is based on Farm Financial Survey data and is averaged over all farms. Farm wages paid to family members are treated as an expense to the farm operation; they are also recorded as income to the family by including them in salary & wage income under off-farm income.
Program premiums are treated as an expense to the farm operation, and are not netted out of program payments.

The proportion of family income derived from the farm, from off-farm sources or from government payments varies from one year to another depending on market conditions.

Between 2009 and 2010, an increasing share of family income came from off-farm sources even as net market income and program payments increased.

Chart C4.23
Average Farm Family by Source of Income (Unincorporated Farms), 2006-2010



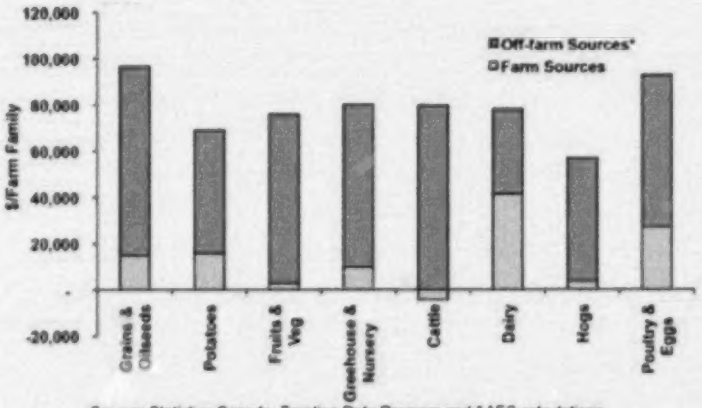
Source: Statistics Canada, Farm Financial Survey 2007 to 2011.
Note: * Net market income does not include capital cost allowance.
** Off-farm income is based on Farm Financial Survey data and is averaged over all farms, not netted out of program payments.
Farm wages paid to family members are treated as an expense to the farm operation; they are also recorded as income to the family by including them in salary & wage income under off-farm income.
Program premiums are treated as an expense to the farm operation, and are not netted out of program payments.

Farm family income varies by farm type as well

Farm families on dairy and poultry and egg farms tend to rely less on off-farm income than do other farm types.

This is because dairy, poultry and egg farms tend to be more labour intensive than other farm types. Families operating cattle (primarily cow-calf) and grain and oilseed farms reported higher proportions of their income from off-farm sources. These farm types tend to be less labour intensive, allowing for part-time-farm employment by family members.

Chart C4.24
Average Farm Family Income by Farm Type, 2009



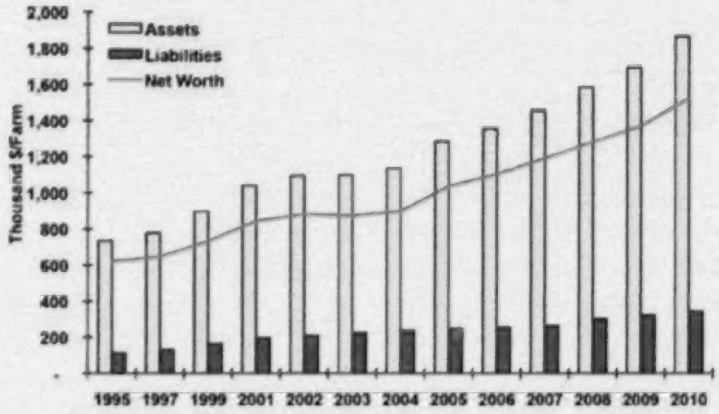
Source: Statistics Canada, Taxation Data Program and AAFC calculations.
Note: * Includes farm and non farm wages and salaries and non-farm self-employment income.

The financial performance of farms takes into account both income and net worth measures

Average net worth per farm, which is measured by assets net of liabilities, has been rising over time.

In Canada, average net worth per farm continued to increase steadily over the last few years after stabilizing in 2003. In 2010, average net worth per farm was $1.5 million, up 11.1% over that of 2009. Assets continued to grow sharply, while liabilities rose only slightly in the face of record low interest rates. Land values, which are an important farm asset, have risen sharply in recent years.

Chart C4.25
Average Total Farm Net Worth, 1995-2010

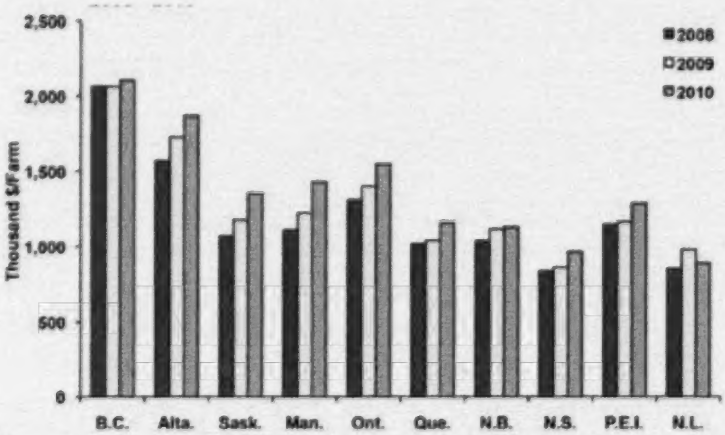


Source: Statistics Canada, Farm Financial Survey 1996 to 2011, and AAFC calculations.
Note: Includes farms with $10,000 or more in gross revenues.

Average net worth increased in all provinces except Newfoundland and Labrador in 2010.

Average net worth per farm was up sharply in Manitoba, Prince Edward Island, Quebec, Ontario, Saskatchewan and Alberta.

Chart C4.26
Average Farm Total Net Worth by Province, 2008-2010



Source: Statistics Canada, Farm Financial Survey 2008 to 2011 and AAFC calculations.

Net worth varies by farm type

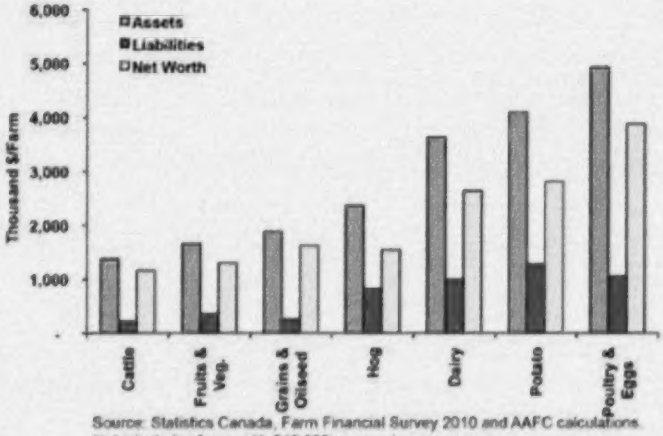
Poultry and egg farms reported the highest average net worth per farm, at over $3.9 million in 2010, followed by potato farms at $2.8 million and dairy farms at $2.6 million.

This reflects the fact that dairy, poultry and egg farms require quotas to operate their farms, which are included as assets. On the other hand, potato farms require expensive, specialized machinery.

Average assets and liabilities were significantly lower for cattle, hog, grain and oilseed and fruit and vegetable farms.

Cattle farms reported the lowest average assets, liabilities and net worth of all farm types.

Chart C4.27
Average Assets, Liabilities and Net Worth by Farm Type, 2010

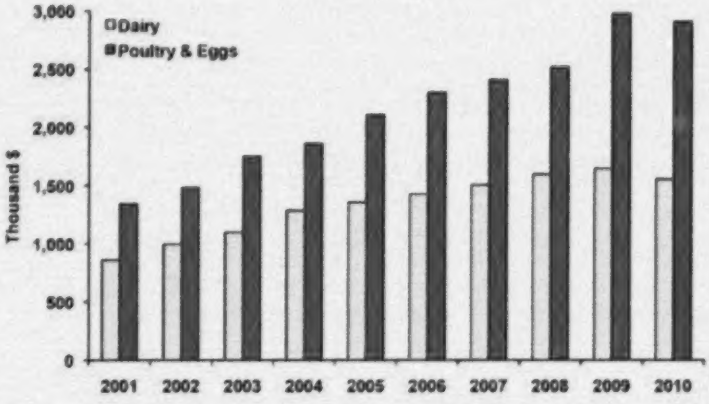


Source: Statistics Canada, Farm Financial Survey 2010 and AAFC calculations.
Note: Includes farms with $10,000 or more in gross revenues.

Quota values for poultry and egg farms rose steadily over the decade until 2010 when they declined.

In 2010, dairy farms reported holding $1.6 million worth of quota, on average, while poultry farms reported average quota values of around $2.9 million. Dairy and poultry quotas accounted for approximately 43% and 53% of total farm assets, respectively. Quotas are required to produce milk, poultry and eggs in Canada.

Chart C4.28
Average Quota Value of Supply-Managed Farms, 2001-2010



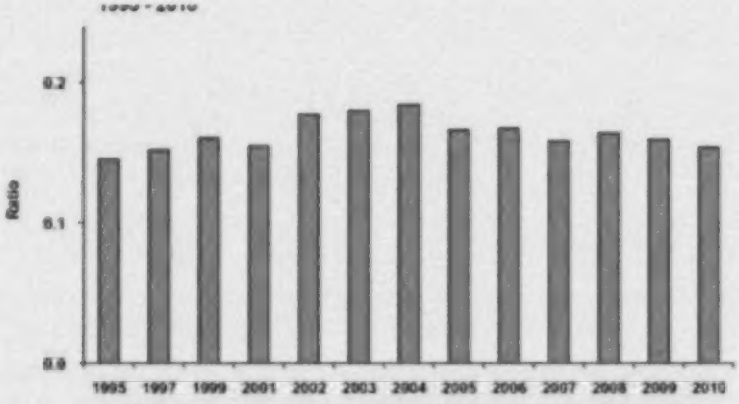
Source: Statistics Canada, Farm Financial Survey, 2002 to 2011 and AAFC calculations.
Note: Includes farms with $10,000 or more in gross revenues.

Debt to asset ratios reflect, to some degree, a farm's financial risk and how much of a farm's assets have been financed by debt

Over the past few years, debt to asset ratios have fallen slowly, relative to levels reported between 2002 and 2004.

Interest rates are at historically-low levels, helping keep debt-servicing costs down.

Chart C4.29
Average Debt to Asset Ratios for All Farms, 1995-2010

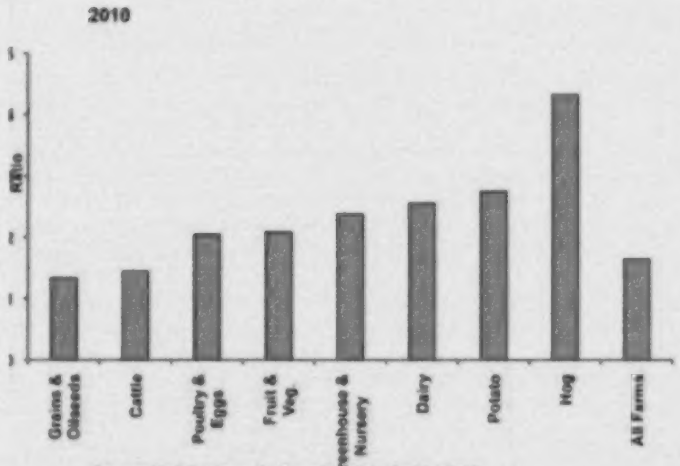


Source: Statistics Canada, Farm Financial Survey, 1996 to 2011 and AAFC calculations.
Note: Includes farms with $10,000 or more in gross revenues.

Debt to asset ratios also vary by farm type.

In 2010, grain and oilseed operations reported the lowest debt to asset ratios (13%), while hog farms reported the highest (43%). This reflects the significant debt hog farms accumulated during the expansionary period for hog operations since the early 2000s. Higher land values have helped boost asset values of grain and oilseed farms more recently.

Chart C4.30
Average Debt to Asset Ratios by Farm Type, 2010



Source: Statistics Canada, Farm Financial Survey, 2011.

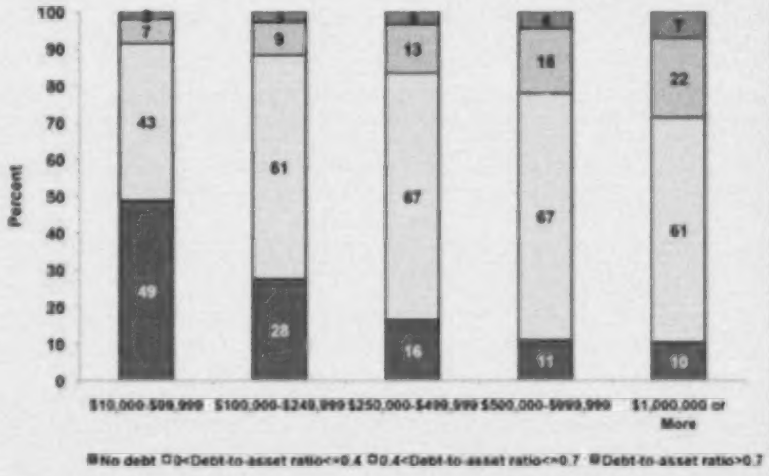
When debt to asset ratios are considered by farm size, larger farms tend to hold more debt and are more highly leveraged than smaller farms

Debt to asset ratios tend to increase with farm size.

Farms are considered highly leveraged when they have a debt to asset ratio above 70%. A higher share of large farms report higher debt to asset ratios than small farms.

By farm size, more small farms ($10,000 to $99,999) reported no debt (49% of farms) while only 10% of the largest farms ($1 million and over) reported no debt. Only 2% of small farms were highly leveraged (with a debt to asset ratio above 70%). On the other hand, 7% of the largest farms were highly leveraged with debt to asset ratios over 70%.

Chart C4.31
Distribution of Farms by Debt to Asset Ratio and Revenue Class, 2010



Source: Statistics Canada, Farm Financial Survey, 2011.

SECTION C5

Inputs to Primary Agriculture

Introduction:

Input and service suppliers, ranging from multinational firms and commodity brokers to small local agribusinesses, play a major role in the Canadian agriculture and agri-food system. Higher energy prices and increasing demand for agricultural commodities have contributed to rising input prices globally with significant implications for farm operating expenses. In order to reduce operating expenses, many producers purchase inputs through co-operatives during off-season periods or are adopting increasingly more energy-efficient or lower input farming practices.

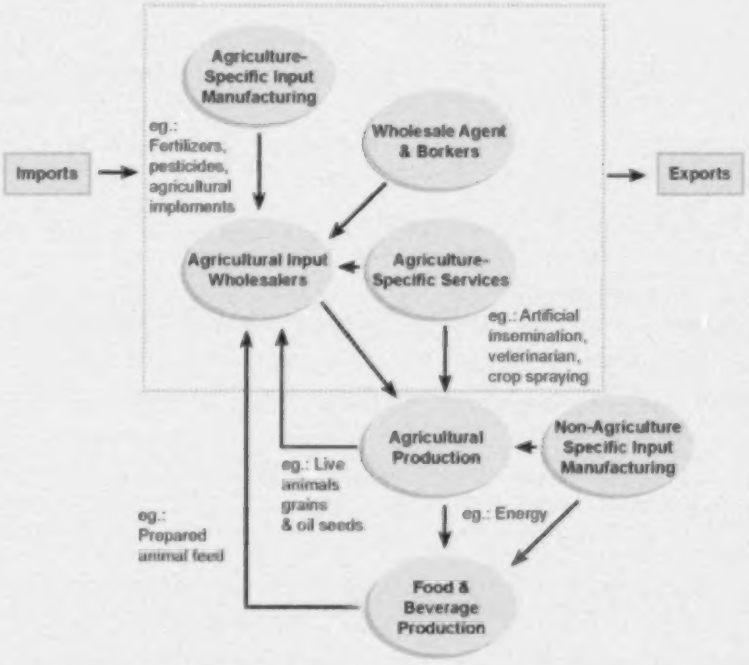
Input suppliers are a whole chain unto themselves

Agriculture-specific input and service suppliers constitute a whole value chain within the agriculture and agri-food system. They include input manufacturers, service providers and retailers/wholesalers.

They supply and support primary agriculture and, at the same time, act as buyers of products from downstream industries (e.g. prepared animal feed from grain and oilseed mills or feeder calves from cow-calf operations).

Agriculture-specific input and service suppliers are a heterogeneous group. They range from multinational firms producing agricultural machinery and implements to small local businesses selling feed and pesticides, and from international commodity brokers to the next-door neighbour doing custom work.

Chart C5.1
The value Chain of Agriculture-Specific Input and Service Suppliers



Source: AAFC

Farm operating expenses were up in 2011 as a result of higher fuel, fertilizer, feed and seed prices

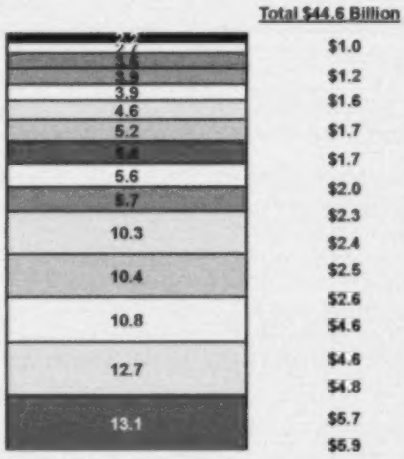
In 2011, farm net operating expenses and depreciation totalled $44.6 billion, an increase of 9.3% over 2010.

Depreciation was the largest individual expense for agriculture producers in 2011 ($5.9 billion), followed by commercial feed ($5.7 billion), other expenses ($4.8 billion), fertilizer & lime and hired labour ($4.6 billion for each).

As farms become more capital intensive, depreciation continues to be an important expense.

Chart C5.2

Farm Net Operating Expenses and Depreciation, 2011



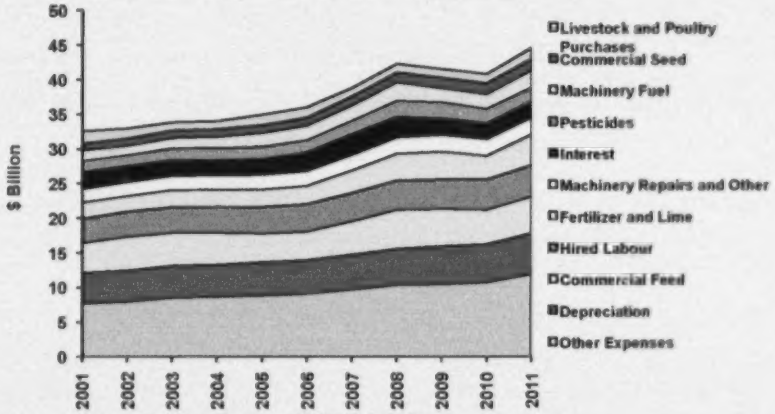
Source: Statistics Canada.
Note: *Other Expenses is the sum of smaller-value categories including: Repairs to Buildings and Fences, Irrigation, Twine, Wire and Containers, Crop and Hail Insurance, A. I. Fees & Veterinary, Business Insurance, and Stabilization Premiums. 2011 data is preliminary.

Operating expenses resumed their trend upward in 2011 after having fallen in 2009 and 2010

Producers saw their overall operating costs increase by 9.3% between 2010 and 2011.

The expense item that increased the most was fertilizer and lime, which rose by 31.7% over the period, followed by machinery fuel at 21.0% and livestock and poultry purchases at 17.3%.

Chart C5.3
Farm Net Operating Expenses and Depreciation, 2001-2011



Source: Statistics Canada and AAFC calculations.
Note: *Other expenses are the sum of the smaller-value categories including: Repairs to Buildings and Fences, Irrigation, Twine, Wire and Container, Crop and Hail Insurance, A. I. fees & Veterinary, Business Insurance, Stabilization Premiums.
2011 data is preliminary.

Expenses were higher in 2011 due to the rise in all major farm input prices.

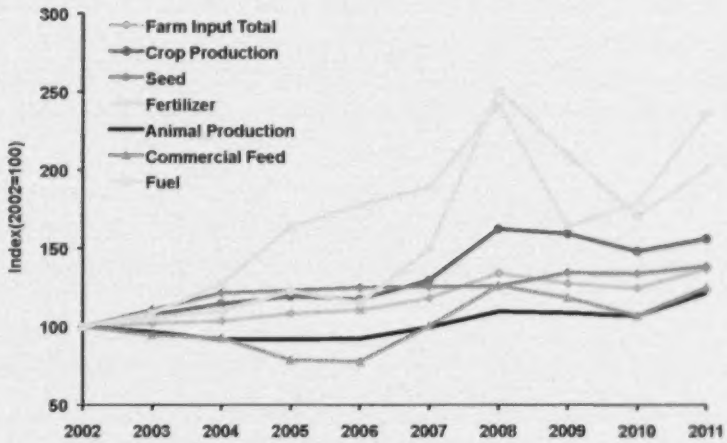
Over the last year, prices of inputs for crop production have grown slightly faster than for animal production, driving up the overall farm input price index.

Greater reliance on energy-based inputs such as machinery fuel and fertilizer has been the main reason for the increase in the price of crop production inputs.

Fertilizer prices increased substantially in 2011, after having declined in 2009 and 2010. However, they still remain below record high levels of 2008.

Continuing higher commodity prices for grains and oilseeds drove up commercial feed prices for livestock producers in 2011, after feed prices had declined in 2009 and 2010.

Chart C5.4
Farm Input Price Index, 2002-2011



Source: Statistics Canada.

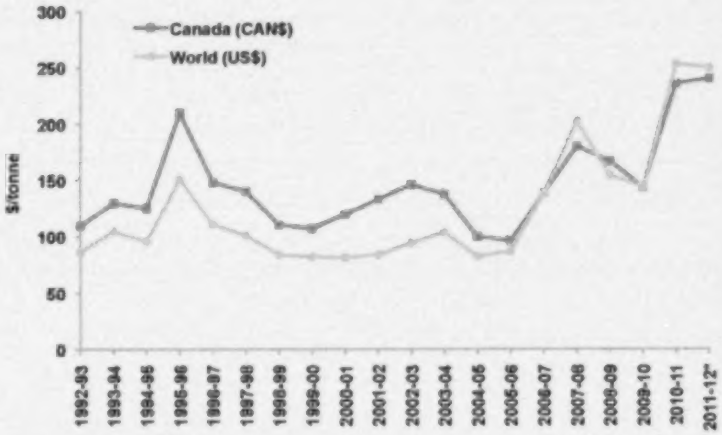
Higher Canadian prices for feed grains and feeder calves in 2011-12 continued to keep upward pressure on costs

Canadian and world feed grain prices moderated in 2011-12 after having risen to record levels in 2010-11, keeping feed costs high for livestock producers.

World feed grain prices rose in 2010-11 to record levels, mainly due to strong world demand and lower production and stocks of grains and oilseeds resulting from unfavourable climatic events. Feed grains include corn, soybeans and barley.

In Canada, feed grain prices were moderated by a stronger Canadian dollar, which helped to offset these higher world prices.

Chart C5.5
Canadian and World Feed Grain Prices, 1992-93 to 2011-12



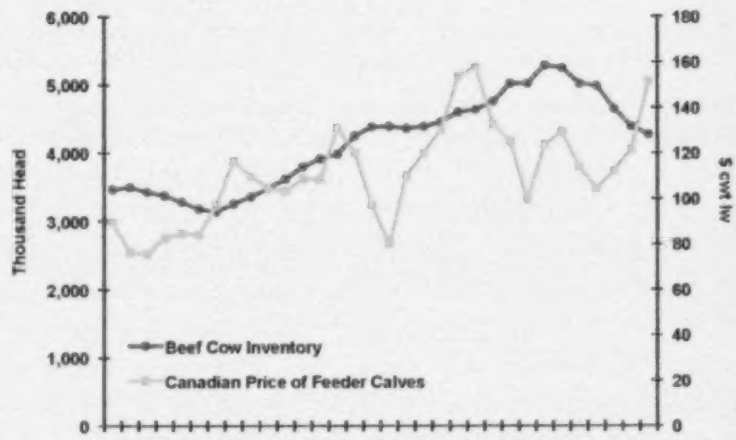
Source: AAFC.
Note: *Cumulative average for 2011-12 crop year.

The Canadian price of feeder calves has also risen dramatically recently as cattle inventories have fallen sharply.

Feeder calf prices are approaching the record levels of 2000 and 2001. Since that time, Bovine Spongiform Encephalopathy (BSE) in 2003 and Country of Origin Labeling (COOL) in 2008 had put downward pressure on feeder calf prices as Canadian exports were restricted and domestic supplies increased.

More recently, droughts and the world economic recession in 2009 extended the period of herd liquidation, increasing supplies and lower prices. However, in 2011, cattle inventories were depleted and prices rose sharply.

Chart C5.6
Canadian Feeder Calf Prices and Beef Cow Inventories, 1980-2011



Source: Statistics Canada, Canfax and AAFC calculations.

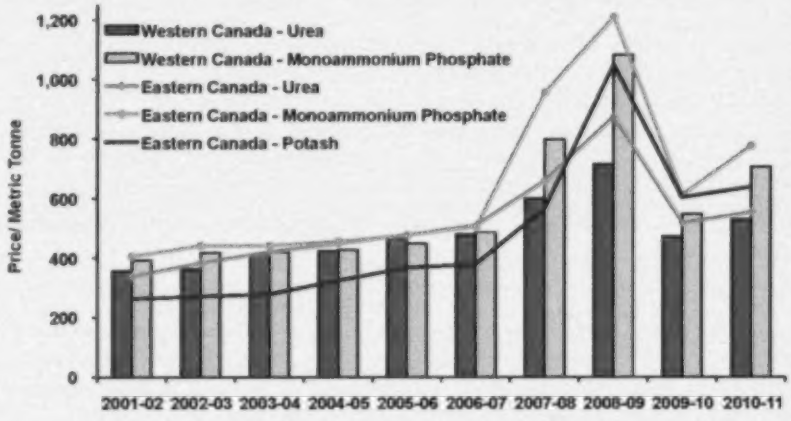
Fertilizer prices, which peaked in 2008-09, are experiencing some upward pressure in 2011

Costly energy and a strong crop sector are contributing to higher fertilizer prices.

Prices for urea and monoammonium phosphate in both Eastern and Western Canada rebounded in 2010-11, but remained below the peaks seen in 2008-09.

Eastern Canada potash prices increased slightly in 2010-11 following a sharp drop in 2009-10, but were still well above levels observed before the price spike began in 2007-08.

Chart C5.7
Fertilizer Prices by Region, by Fertilizer Year (July to June), 2001-02 to 2010-11



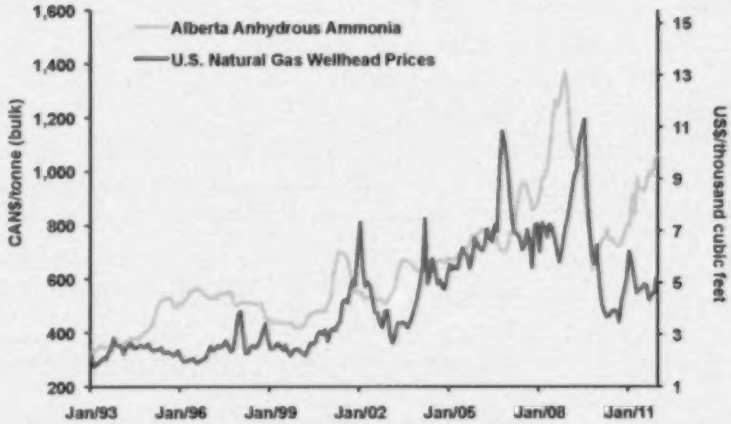
Source: Farm Input Price Survey, AAFC and Alberta Input Monitoring System (AIMS).
Note: 2011 data is preliminary.

Historically, fertilizer prices have been closely tied to natural gas price movements, but this relationship has changed recently.

In 2011, the price of anhydrous ammonia in Alberta rose due to increased demand from crop producers in the face of rising prices for grains and oilseeds.

This occurred despite the fact that natural gas prices were at the lowest level in almost a decade in 2011 as a result of new low-cost extraction technologies from shale and increased supplies.

Chart C5.8
Anhydrous Ammonia and Natural Gas Prices, 1993-2011

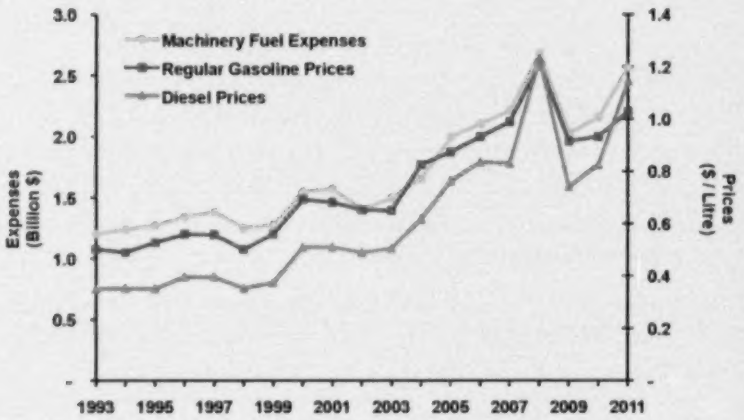


Source: Alberta Agricultural Input Monitoring System (AIMS) and the United States Energy Information Administration.
Note: 2011 data is preliminary.

Fuel costs have risen recently for primary producers after having decreased sharply in 2009

Machinery fuel expenses rose to $2.6 billion in 2011 and tracked regular gasoline and diesel prices, which were up in 2011. However, prices still remain below the peak of 2008.

Chart C5.9
Farm Fuel Prices and Expenses, 1993-2011



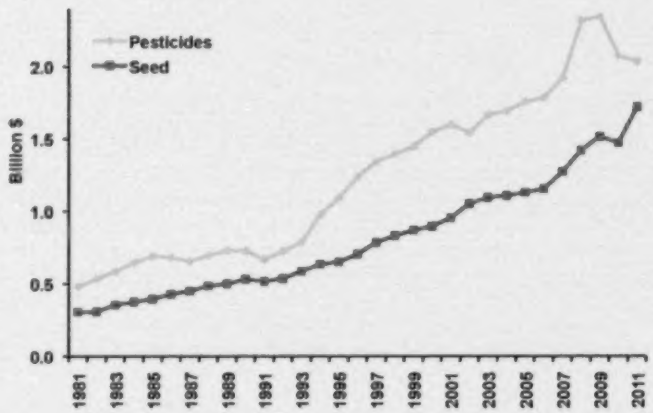
Source: Statistics Canada.
Note: Regular gasoline and diesel prices are for Ontario.

Seed expenses in Canada grew to over $1.5 billion in 2011, while pesticide costs continued to fall.

Pesticide costs have fallen due to a strong decline in prices and stable pesticide usage, while seed costs rose in the face of higher crop prices.

Pesticide costs rose through the 1990s and 2000s with increased use of plant fungicides to combat plant diseases such as Fusarium head blight in wheat.

Chart C5.10
Farm Expenses on Pesticides and Seed, 1981-2011



Source: Statistics Canada.
Note: 2011 data is preliminary.

Purchases of agricultural machinery represent an important and significant expense for farmers and lead to other costs such as repairs and depreciation

Machinery and equipment purchases are capital expenses that may not be made every year on every farm. They do, however, represent a sizeable portion of expenses for farmers, and lead to other expenses and costs such as interest payments, repairs and depreciation.

After relatively flat growth in prices from 2000 through 2008, agricultural machinery prices increased by about 4% in 2009 and have since moderated.

Prices of other industrial machinery have tracked agricultural machinery very closely. However, motor vehicles and other transport equipment prices have been declining throughout much of the past decade due to the recent recession and reduced demand.

Chart C5.11
Industrial Product Price Index for Machinery and Equipment, 1981-2011

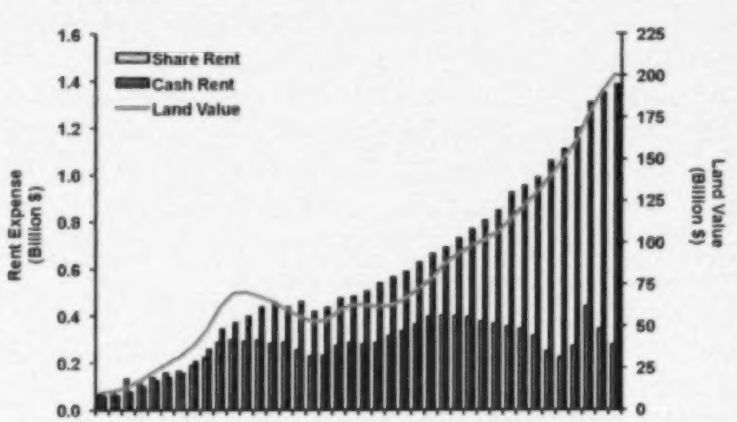
Source: Statistics Canada.

With the increase in land values, more farmers are renting land, adding to their expenses

Land values have been rising steadily through the 1990s and into the 2000s.

While cash rent and land values have trended upward together, the value of share rent has experienced a relative decline as a result of lower share crop prices.

Chart C5.12
Total Rent and Farmland Value, 1971-2010



Source: Statistics Canada and AAFC calculations.

Note(s):
Landowners have traditionally relied on cash or share rent arrangements in renting their land to producers. Cash rent usually involves a per-acre agreed arrangement between the landowner and are often set for a multi-year period. The producer is usually required to ensure proper stewardship of the land by ensuring that pests are properly controlled but the same rate is paid regardless of what the output of the land is.

Share rent, or share-cropping, involves the landowner and renter sharing in the inputs and outputs of the land. A percentage sharing agreement is agreed upon between the two parties. The rent paid depends on production decisions made by the two parties and the output of the crop produced on the land. Therefore, the landowner in a share crop situation is assuming more downside risk in years where production is down but has the opportunity for a greater rent value in years where production is above average.

Transportation costs, which reduce the prices farmers receive for their products, have been increasing in Western Canada

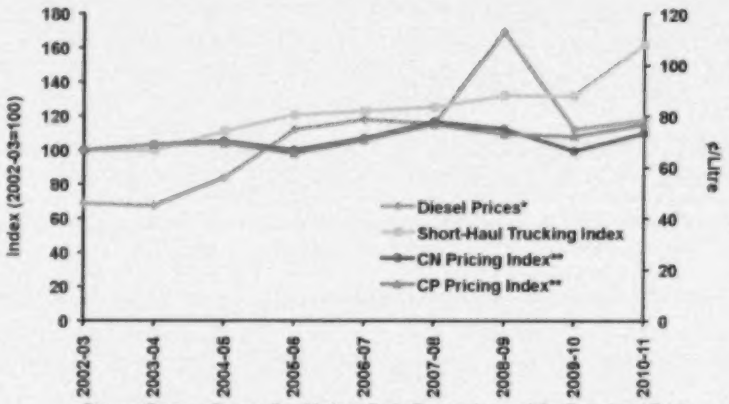
The cost of shipping grain in Western Canada has increased in recent years with short-haul trucking rates leading the way.

In 2011, short-haul trucking rates increased sharply despite a modest increase in diesel prices.

Prior to 2011, high grain volume demands from 2008 to 2010 outpaced declines in fuel costs, keeping trucking rates stable over this period.

Rail rates, which are indirectly affected by the rail revenue cap administered by Transport Canada, have not increased at the same rate as the less-regulated trucking rates.

Chart C5.13
Rail and Trucking Rate Index, Western Canada, 2002-03 to 2010-11



Source: Quroum Corporation, Various Grain Companies, and the Farm Input Price Survey, AAFC.
Note: *Diesel prices are for Manitoba.
**CN Pricing represents the rates charged by Canadian National (CN) railway while CP Pricing is that charged by Canadian Pac

Note(s):
Consolidation in the grain handling industry that began in the mid-1990s with the elimination of the Western Grain Transportation Act subsidy resulted in a significant decline in the number of grain elevators across western Canada. Rail companies also responded by abandoning or selling portions of their track, leaving longer distances for farmers to deliver their grain. This consolidation across the grain handling and transportation sectors spawned a short-haul trucking industry to fill in the distance and service gaps with fewer elevators and less rail track.

SECTION D

Government and the Agriculture and Agri-Food Sector

SECTION D1

Government Expenditures

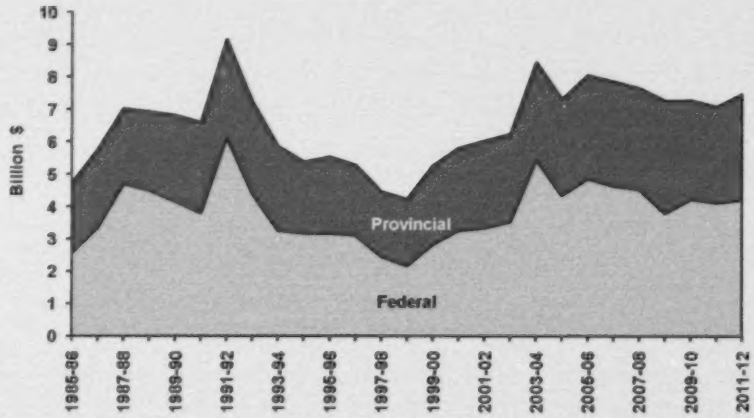
Introduction:

Government expenditures (federal and provincial) in support of the agriculture and agri-food sector are expected to increase further in 2011-12. As a share of agriculture GDP, government expenditures are estimated to rise slightly to 26.7%, from levels in 2010-11. Program payments continue to make up the largest portion of government expenditures in support of the sector, but support is also provided through research, inspection, rural and market development and environmental subsidies.

Federal and provincial governments provide a significant level of support to the agriculture and agri-food sector in Canada, with the federal government contributing, on average, 58.7% of the total over the whole period.

Total government expenditures in support of the agriculture and agri-food sector are estimated to be $7.5 billion for the 2011-12 fiscal year. This is up slightly from the previous year as both federal and provincial support levels have increased.

Chart D1.1
Total Government Expenditures in Support of the Agriculture and Agri-Food Sector, 1985-86 to 2011-12

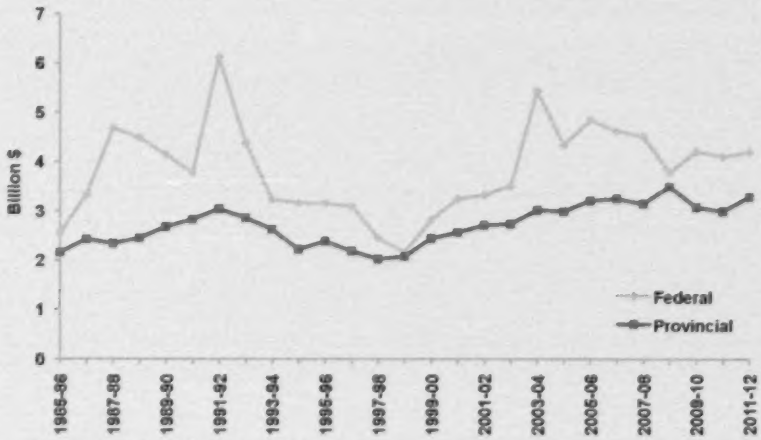


Source: AAFC.
Note: 2011-12 figures are estimates.

Both federal and provincial expenditures have increased over time, with federal expenditures much more variable in response to specific disasters such as the 2003 Bovine Spongiform Encephalopathy (BSE) crisis, disease outbreaks and flooding or drought.

Federal government expenditures peaked in 1991-92 when new programs such as the Net Income Stabilization Account and the Gross Revenue Insurance Program were introduced. The federal government also provided additional support through ad hoc programs to help producers transition to this new set of programs. Expenditures peaked again in 2003-04 with the BSE crisis. In the last three years, federal expenditures have been relatively stable around $4 billion.

Chart D1.2
Federal and Provincial Government Expenditures in Support of the Agriculture and Agri-Food Sector, 1985-86 to 2011-12



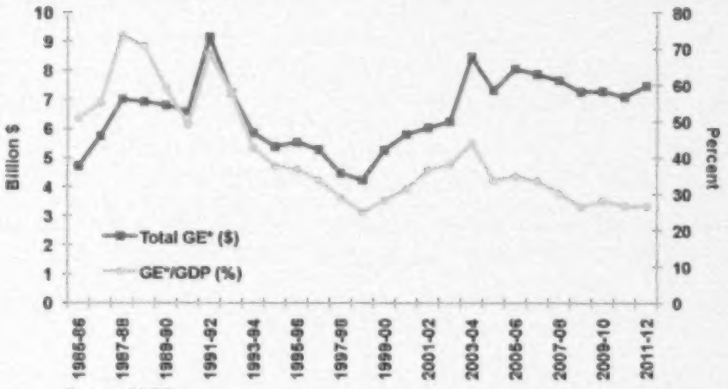
Source: AAFC.
Note: 2011-12 figures are estimates.

Government support in 2011-12 is expected to fall to 26.7% of agriculture GDP.

Throughout the 1990s, government expenditures declined, both in dollar terms and as a share of agriculture GDP. However, since 1999-00, both indicators increased to peak in 2003-04 as a result of programs stemming from the BSE crisis. After this time, government expenditures have been on a slight declining trend.

Chart D1.3

Total Government Expenditures in Support of the Agriculture and Agri-Food Sector and as a Share of Agriculture GDP, 1985-86 to 2011-12

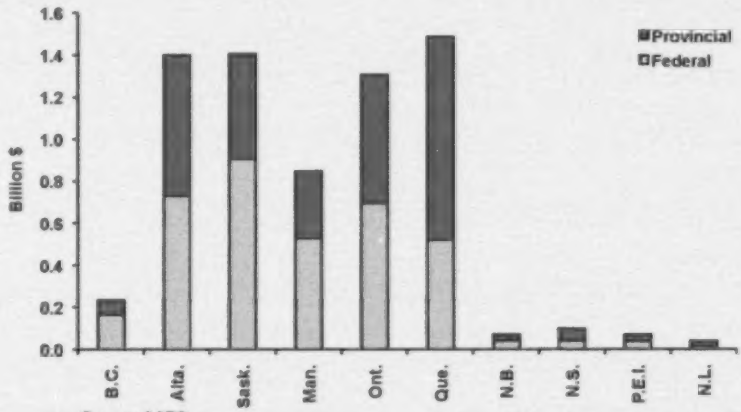


Source: AAFC.
Note: 2011-12 figures are estimates.
*GE - Government Expenditures

The federal government is expected to contribute more than half of total support in most of the provinces in the 2011-12 fiscal year.

Conversely, the provincial governments in Quebec, Nova Scotia, and Newfoundland and Labrador are expected to provide the majority share of total agriculture and agri-food support in these provinces since they have unique programs that address regional needs. Federal expenditures accounted for a greater share of total government expenditures in British Columbia, Saskatchewan, Manitoba and New Brunswick.

Chart D1.4
Total Government Expenditures in Support of the Agriculture and Agri-Food Sector by Province, 2011-12

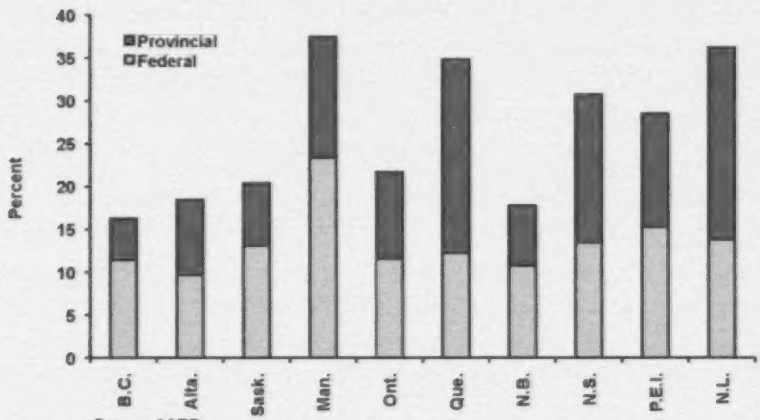


Source: AAFC.
Note: 2011-12 figures are estimates.

In 2011-12, total government expenditures in support of the agriculture and agri-food sector averaged 27% of agriculture GDP at the national level, but this share varied across provinces.

Government expenditures to support the agriculture and agri-food sector, as a share of agriculture GDP in each province, are expected to be higher than average in Manitoba, Quebec, Nova Scotia, Prince Edward Island and Newfoundland and Labrador, but lower than average in British Columbia, Alberta, Saskatchewan, Ontario and New Brunswick.

Chart D1.5
Total Government Expenditures in the Agriculture and Agri-Food Sector as a Share of Sector GDP by Province, 2011-12

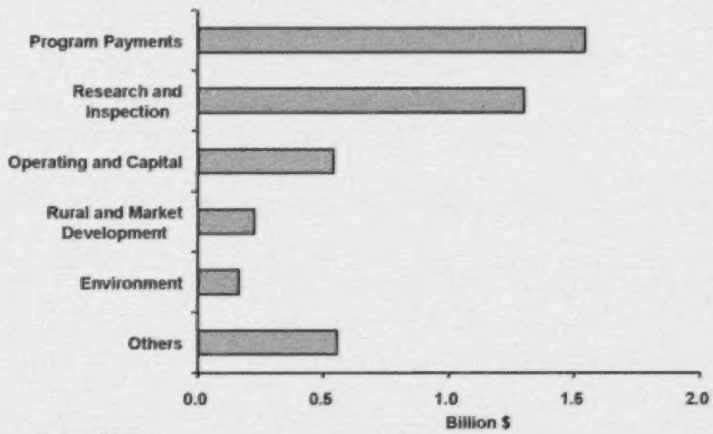


Source: AAFC.
Note: 2011-12 figures are estimates.

Following the trend from previous years, program payments in the 2011-12 fiscal year are estimated to account for the largest share of federal government expenditures in support of the agriculture and agri-food sector in Canada.

Program payments, which can be attributed to business risk management programs, are estimated at 36% of total federal government expenditures to support the sector in the 2011-12 fiscal year. Research and inspection expenditures, as the second most important category of government expenditures, accounted for an estimated 30% of the total in 2011-12.

Chart D1.6
Federal Government Expenditures in Support of the Agriculture and Agri-Food Sector by Major Category, 2011-12

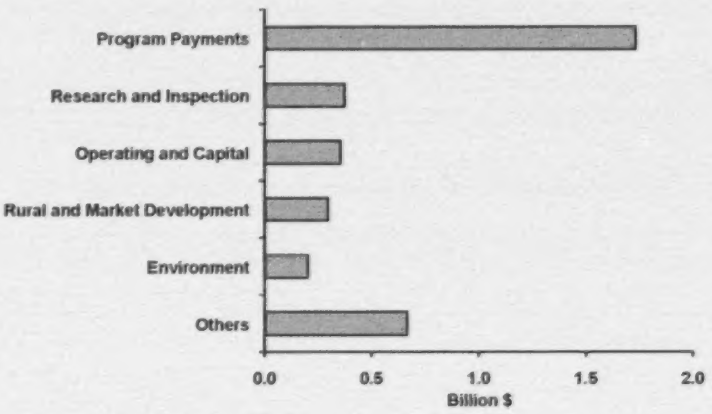


Source: AAFC.
Note: 2011-12 figures are estimates.

Likewise at the provincial level, program payments are the most important government expenditure category in support of the agriculture and agri-food sector.

Program payments are estimated to account for 48% of total provincial government expenditures in support of the agriculture and agri-food sector. The research and inspection category is estimated to make up only 10% of total expenditures at the provincial level in comparison to the 30% share at the federal level.

Chart D1.7
Provincial Government Expenditures in Support of the Agriculture and Agri-Food Sector by Major Category, 2011-12

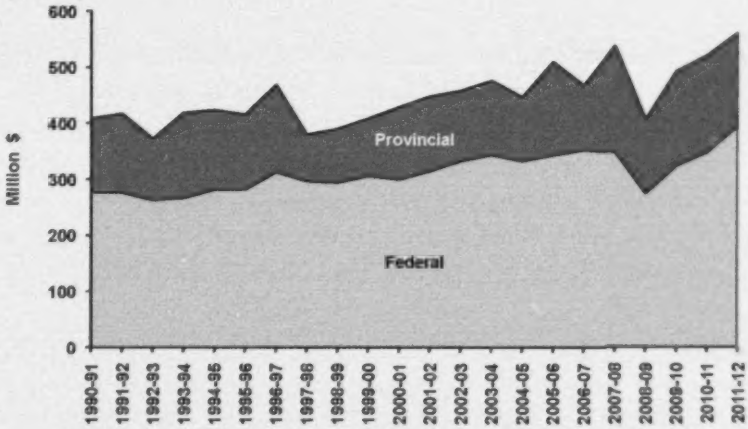


Source: AAFC.
Note: 2011-12 figures are estimates.

There has been an increasing trend in total publicly-funded research expenditures in support of the agriculture and agri-food sector over the last decade, with a peak of $561 million expected in the 2011-12 fiscal year.

In Canada, publicly-funded research expenditures to support the agriculture and agri-food sector are predominantly provided by the federal government. On average, federal expenditures have accounted for 70% of total public research expenditures over the past ten years (2001-02 to 2011-12), with the provinces accounting for the remaining 30%.

Chart D1.8
Government Research Expenditures on Agriculture and Agri-Food,
1990-91 to 2011-12

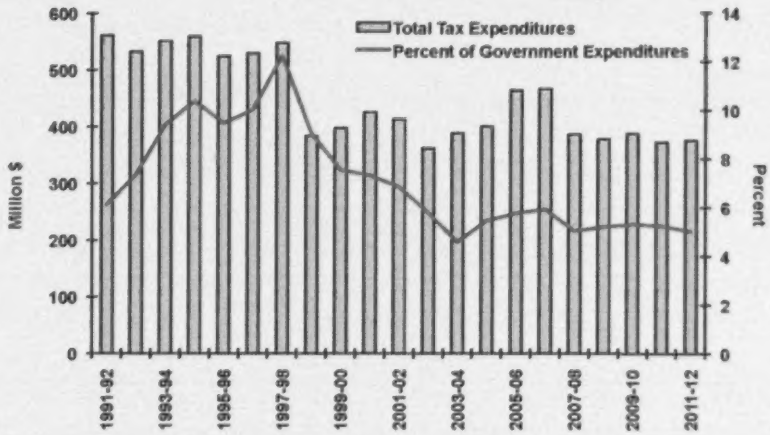


Source: AAFC.
Note: 2011-12 figures are estimates.

Tax exemptions and rebates, referred to as foregone tax revenue (tax expenditures) are another means of government support to the agriculture and agri-food sector. From 1991-92 to 2011-12, tax expenditures to support farm producers averaged 7.1% of total government support, unchanged since 2007-08.

Provincial tax exemptions and rebates associated with primary agriculture are expected to increase slightly to reach nearly $376 million in fiscal year 2011-12. However, tax expenditures as a share of government expenditures are forecast to decrease slightly to 5.0%.

Chart D1.9
Support to Farm Producers Through Tax Rebates and Exemptions,
1991-92 to 2011-12



Source: AAFC.
Note: 2011-12 figures are estimates.

SECTION D2

Producer Support Estimate and Agricultural Policies in Other Countries

Introduction:

Agricultural policies in Canada and other countries have evolved over time. Changes have been made, not only by decreasing the level of support but also by modifying the type of support. Some countries have made significant reforms to their agricultural policies. The Organisation for Economic Co-operation and Development (OECD) indicators are used to present measures of these policy changes.

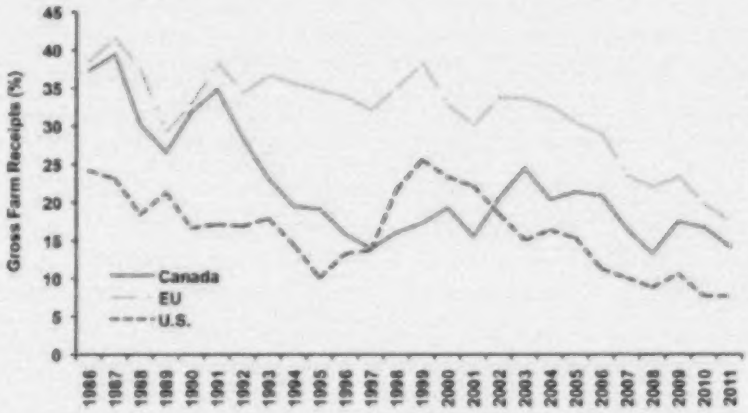
Support to Canadian producers, as measured by the producer support estimate (PSE), has declined in recent years most notably budgetary transfers to producers. Nonetheless, Canada's PSE has remained above the U.S., but below the EU

In 2011, the PSE for Canada was 14.2% of gross farm receipts compared to 17.5% for the EU and 7.6% for the U.S.

Canadian support to producers was 14.2% in 2011. This was a decline from 16.7% in 2010, mainly attributable to an increase in farm receipts and a decrease in market price support (MPS), which was the result of higher world prices of dairy products.

While Canada supports its producers more than the U.S., EU producers benefit from significantly more support.

Chart D2.1
Percent of PSE in Selected Countries, 1986-2011



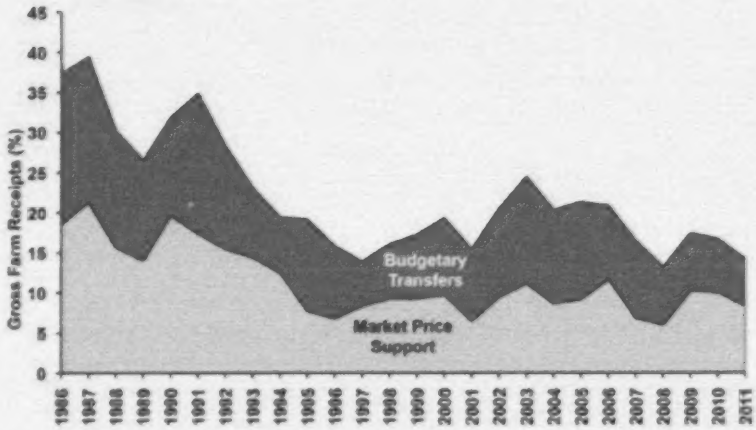
Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database
Note: 2011 data is preliminary.

In 2011, 59.2% of total support to producers in Canada was provided through MPS compared to an average of 52.0% over the 1986-2011 period.

In Canada, both market price support and budgetary transfers, expressed as percent of gross farm receipts, have decreased over the 1986-2011 period. The shares of these two types of support have fluctuated between 40.5% to 60.1% of the total support over the same period.

In Canada, milk has traditionally received the highest level of support with respect to MPS. While this trend has not changed, there was a notable drop in MPS for milk in 2011 in comparison to 2010, from 71.4% to 62.5% of total MPS. Conversely, over the same time period, MPS for poultry experienced a significant increase, from 8.0% to 19.0% of total MPS.

Chart D2.2
Composition of Support to Producers in Canada, 1986-2011



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database.
Note: 2011 data is preliminary.

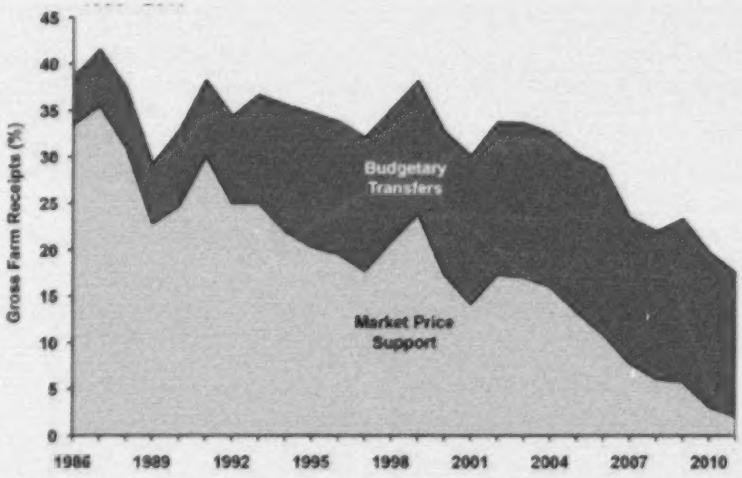
Note(s):
Producer Support Estimate (PSE) is an indicator of support that measures the level of support to producers which includes both budgetary support (i.e., types of government expenditures) and market price support (MPS) (i.e., border measures) that provide implicit support to producers.

In 2011, 88.2% of total support to producers in the EU(27) was provided through budgetary transfers compared to an average of 41.6% over the 1986-2011 period.

In the EU, while market price support expressed as percent of gross farm receipts has decreased over the 1986-2011 period, budgetary transfers have increased as a share of the total. In 1986, 86.6% of total support to producers was through market price support compared to just 11.8% in 2011.

The EU has changed the way support is provided to agricultural producers through significant reforms to the Common Agricultural Policies (CAP) (MacSharry, Agenda 2000 and Mid-Term Review) that decreased intervention prices while increasing direct payments to producers.

Chart D2.3
Composition of Support to Producers in the EU, 1986-2011



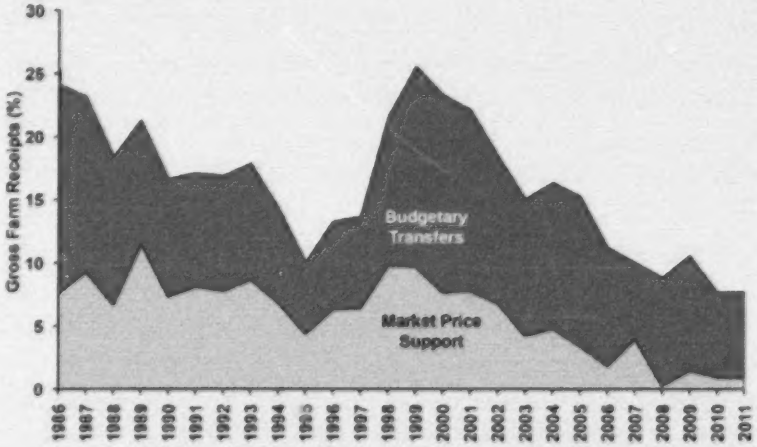
Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database.
Note: 2011 data is preliminary.

In 2011, 88.4% of total support to producers in the U.S. was provided through budgetary transfers compared to an average of 63.3% over the 1986-2011 period.

In the U.S., both market price support and budgetary transfers, expressed as a percentage of gross farm receipts, were on a declining trend over the 1986-2011 period. However, the share of market price support in total support has decreased much more than budgetary transfers.

Milk received the highest level of support through MPS until 2008 when it plummeted, but has shown a significant decreasing trend over the last decade.

Chart D2.4
Composition of Support to Producers in the U.S., 1986-2011



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database.
Note: 2011 data is preliminary.

GLOSSARY

THE CANADIAN AGRICULTURE AND AGRI-FOOD SYSTEM'S COMPONENTS

Agriculture and Agri-Food Sector
The agriculture and agri-food sector is composed of all industries whose primary role is to produce food and agricultural products. It encompasses both primary agriculture and food and beverage processors.

Canadian Agriculture and Agri-Food System
The Canadian agriculture and agri-food system is a value chain of industries focussed on producing agricultural and food products. It includes agricultural input and service suppliers, primary agriculture, food, beverage and tobacco processors, food retailers/wholesalers, and foodservice establishments.

Unless otherwise noted, component stages of the agriculture and agri-food system are defined according to the North American Industrial Classification System (NAICS). A detailed listing of included industries for each component stage of the system is provided below.

Input & Service Suppliers
Agricultural input and service suppliers are composed of the following industries as defined by NAICS:

At the 4-digit level
1151 Support Activities for Crop Production
1152 Support Activities for Animal Production
3253 Pesticide, Fertilizer and Other Agricultural Chemical Manufacturing
4171 Farm, Lawn and Garden Machinery and Equipment Wholesaler-Distributors
4183 Agricultural Supplies Wholesaler-Distributors

At the 5-digit level
33311 Agricultural Implement Manufacturing

Primary Agriculture
Primary agriculture is composed of the following industries as defined by NAICS:

At the 3-digit level
111 Crop Production
112 Animal Production

At the 4-digit level
1111 Oilseed and Grain Farming
1112 Vegetable and Melon Farming
1113 Fruit and Tree Nut Farming
1114 Greenhouse, Nursery and Floriculture Production
1119 Other Crop Farming
1121 Cattle Ranching and Farming

1122 Hog and Pig Farming
1123 Poultry and Egg Production
1124 Sheep and Goat Farming
1125 Animal Aquaculture
1129 Other Animal Production

Food, Beverage and Tobacco Processing
Food, beverage and tobacco processing is composed of the following industries as defined by NAICS:

At the 3-digit level
311 Food Manufacturing
312 Beverage and Tobacco Product Manufacturing

At the 4-digit level
3111 Animal Food Manufacturing
3112 Grain and Oilseed Milling
3113 Sugar and Confectionery Product Manufacturing
3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing
3115 Dairy Product Manufacturing
3116 Meat Product Manufacturing
3117 Seafood Product Preparation and Packaging
3118 Bakeries and Tortilla Manufacturing
3119 Other Food Manufacturing
3121 Beverage Manufacturing
3122 Tobacco Manufacturing

Food Retail/Wholesale
Food retail/wholesale is composed of the following industries as defined by NAICS:

At the 3-digit level
411 Farm Product Wholesaler-Distributors
413 Food, Beverage and Tobacco Wholesaler-Distributors
445 Food and Beverage Stores

Foodservice
Foodservice is composed of the following industries as defined by NAICS:

At the 3-digit level
722 Food Services and Drinking Places

At the 4-digit level
4542 Vending Machine Operators

CONSUMERS

Total Current Consumption
Shows the expenses incurred for food, shelter, household operations, household furnishings and equipment, clothing, transportation, health care, personal care, recreation, reading materials, education, tobacco products and alcoholic beverages, games of chance, and a miscellaneous group of items.

Personal Expenditure on Consumer Goods and Services
Household spending on new consumer goods and on consumer services, plus any mark-up on used goods.

Classification of Food Purchases

Food and Non-Alcoholic Beverages Purchased from Stores
Food purchased from stores includes supermarkets, food specialty stores (butcher shops, fresh produce stores, bakeries, fish markets, delicatessens, health food stores, markets or stands, and direct purchases from producers and frozen food suppliers, outdoor farmers' markets and stands, and all other non-service establishments), convenience stores, and other (any other type of store that sells food items, such as department stores, club-type stores, drug stores, etc.).

Food Purchased from Restaurants
Food purchased from restaurants includes table-service restaurants, fast-food restaurants, cafeterias and other (refreshment stands, snack bars, vending machines, chip wagons and caterers). They are usually found at supermarkets, theatres, exhibitions, sports events, parks, etc.

Alcoholic Beverages
This includes those purchased from stores and restaurants. Also included are expenditures on supplies and fees for self-made beer, wine or liquor. Purchases of alcoholic beverages may be under-reported.

FARM INCOME DEFINITIONS

Average Family Income
Average family income is that income level derived by dividing total family income by the number of families.

Capital Cost Allowance
Capital cost allowance refers to the amount deducted for depreciable property for tax purposes.

Debt to Asset Ratio
Debt to asset ratio at the farm level is total debt divided by total assets.

Debt to Equity Ratio
Debt to equity ratio at the industry level is total debt divided by total equity.

Direct Payments
Direct payments include the amounts paid under government agricultural programs and agricultural programs funded by the private sector. These are insurance programs funded totally by premiums paid by producers. Only those payments related to current agricultural production and paid directly to individuals involved in agricultural production are included.

Farm Cash Receipts
Include revenues from the sale of agricultural commodities, program payments from government agencies, and payments from private crop and livestock insurance programs. Receipts are recorded in the calendar year (Jan.-Dec.) when the money is paid (cash basis) to farmers.

Farm Expenses
Farm expenses are estimates of farm operating expenses and represent business costs incurred by farm operators for goods and services used in the production of agricultural commodities. All expense information is on a calendar year basis. If direct rebates are paid to farmers to reduce the cost of particular inputs, then the net expense estimates are used in the preparation of net income, although both gross and net expenses may be displayed. As the objective is to produce provincial estimates of net income, flows from one farm to another are excluded from the estimates. The province can be viewed as one large farm.

Farm Family Income
Farm family income is the sum of the total income of the operator and his/her family members. It includes income from both farm and non-farm sources.

Farm Net Worth
Farm net worth is measured as the total assets of the farm evaluated at current market value less total liabilities.

Market Receipts
Market receipts refers to cash income from the sale of agricultural commodities, but excludes direct program payments to producers.

Median Family Income
Median family income is that level of family income where there are an equal number of families with income below that level as there are above it.

Net Cash Income
Net cash income measures farm business cash flow (farm cash receipts minus operating expenses) generated from the production of agricultural goods. Net cash income represents the amount of money available for debt repayment, investment or withdrawal by the owner.

Net Operating Income
Net operating income is a term used at the farm level, and it is the difference between gross farm revenues and total farm cash expenses.

Non-Farm Employment Income
Employment income which originates from sources other than the farm operation (such as gross wages and salaries) and net self-employment income (from business, professional, commission and fishing) not related to the farm operation.

Off-Farm Income
The term off-farm income is a bit misleading in that it includes wages and salaries paid to family members for work done on an unincorporated farm.

Other Non-Farm Income
Investment income (such as interest, taxable capital gains, dividends) which originates from sources other than the farm operation, pensions, and other income from government programs for families or individuals and other income not from the farm operation.

Profit Margin Ratio
Profit margin ratio at the industry level is calculated as operating profits divided by total operating revenues. Operating profit is the net result of the principal business activities of a firm. It is calculated before taking into account interest expense, investment income, non-recurring losses from the write-down of assets, gains or losses realized on the disposal of assets, and income tax expense. This ratio indicates management's ability to generate earnings from the principal business activities of a firm.

Rate of Return on Long-Term Capital
The rate of return on long-term capital is calculated as operating income (without deducting either taxes or interest paid) divided by long-term capital, where long-term capital is taken to be the sum of shareholders' equity and long-term debt.

Realized Net Farm Income
Realized net farm income is calculated as realized net market income plus government program payments.

Realized Net Market Income
Realized net market income is calculated as farm market receipts plus income-in-kind less operating expenses and depreciation.

Return on Assets
The rate of return on assets at the farm level is calculated as net operating income plus interest expense minus capital cost allowance divided by the total value of assets at cost. In the case of dairy and poultry farms, the allowance on eligible capital property for quota was also deducted.

Return on Equity
The rate of return on equity at the farm level is calculated as net operating income minus capital cost allowance divided by net worth at cost. In the case of dairy and poultry farms, the allowance on eligible capital property for quota was also deducted.

Return on Equity Ratio
Return on equity ratio at the industry level is calculated as after-tax profit divided by total equity x 100. This ratio measures the level of return to the owners (investors) and it represents their measure of profitability. The earnings figure is the after-tax profit, including a deduction for interest expense (payments to lenders). It is the net profit available to the owners (investors). The ratio indicates how many cents are returned to every dollar invested by the owners.

FARM OPERATION DEFINITIONS

Census Farm
An agricultural operation that has the intention of producing at least one of the following products: crops (field crops, tree fruits and nuts, berries or grapes, vegetables, seed); livestock (cattle, pigs, sheep, horses, exotic birds, etc.), animal products (milk or cream, eggs, wool, fur, meat), or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

Incorporated Farm
A legal business entity separate from the persons who own, manage or operate the business. The business owners or shareholders are not personally liable for any of the debts of the company, other than the value of their investments in the company due to the legal independence of the business.

Non-Family Farm
Farms organized as non-family corporations, co-operatives or other communal operations. It also includes farms held in estates or trusts.

Multi-Generational Farm
Multi-generational farms are farms with more than one operator where the age difference between the oldest and youngest operator is 20 years or more.

Partnership
A type of business entity in which the business partners share with each other the profits or losses of the business, and where there is no legal distinction between the owners and the business. All partners manage the business and are personally liable for its debts except in the case of a limited partnership, where certain partners may relinquish their ability to manage the business in exchange for limited liability in the partnership's debts.

Single Generation Farm
Single generation farms are farms with more than one operator where the age difference between the oldest and youngest operator is less than 20 years.

Sole Proprietorship
A type of business entity, which is owned and run by one individual and where there is no legal distinction between the owner and the business. It is a sole proprietorship in the sense that the owner has no partners.

Unincorporated Farms
Farm businesses where there is no legal distinction between the owners and the business, which include sole proprietorships and partnerships.

FOOD RETAIL/WHOLESALE

Chain Stores
Food retailers are divided into chain stores and non-chain stores. Chain stores are defined as operating four or more locations in Canada (within the same industry group and under the same legal ownership).

ECONOMIC AND STATISTICAL TERMINOLOGY

Advanced Technology
Advanced technology refers to a new technology that performs a new function or improves some function significantly better than commonly used technologies. Examples include biotechnology, nanotechnology, etc.

Benefit/Cost Ratio
The benefit/cost ratio is a ratio where the numerator consists of all direct benefits and the denominator consists of all direct costs. In other words, the benefit/cost ratio is expressed in terms of favourable monetary consequences to project beneficiaries, offset by any negative benefits.

Capital Stock
Fixed capital is comprised of buildings, engineering structures and machinery and equipment. Total investment in fixed capital is made up of purchases needed to offset depreciation (replacement needs) and purchases to expand the capital stock. When replacement needs exceed investment, the capital stock falls, since the existing stock is not being maintained. When investment exceeds replacement needs, the stock increases.

Chained Dollars
A measure to express real volumes of production or expenditure by removing the distorting effects of price changes over time.

Check-offs
Producer association check-off schemes are common sources of funding for R&D innovation, promotion and development of agriculture commodities. These schemes usually involve an annual assessment of marketings or sales, where the revenue is pooled by the grower organization and a percentage share or fixed amount levy is collected for these purposes.

Concentration Ratio (CR4)
Concentration ratio is a measure of an industry's concentration level and expresses sales of a set number of the top firms in the industry as a percentage of total industry sales. CR4 is the acronym for the concentration ratio of the top four firms in the industry.

Constant Prices
Constant prices refers to a value from which the overall effect of a general price inflation has been removed.

Crop Yield
Crop yield is a measure of the amount of a crop harvested per unit of land area.

Foreign Direct Investment (FDI)
FDI refers to investment by non-residents in an enterprise where the non-residents own 10 percent or more of the ordinary shares or voting power in incorporated enterprises or the equivalent in unincorporated enterprises.

Gross Domestic Product (GDP)
The GDP for a country is the total unduplicated value of the goods and services produced in that country during a given period.

Hazard Analysis and Critical Control Points (HACCP)
A process control system designed to identify and prevent microbial and other hazards in food production. It includes steps designed to prevent problems before they occur and to correct deviations as soon as they are detected. Such preventive control systems with documentation and verification are widely recognized by scientific authorities and international organizations as the most effective approach available for producing safe food.

Intermediate Inputs
Goods and services, other than fixed assets, used as inputs into the production process of an establishment that are produced elsewhere in the economy or are imported. They may be either transformed or used up by the production process. Land, labour, and capital are primary inputs and are not included among intermediate inputs.

Internal Rate of Return (IRR)
The IRR, in percentage, is based on the producer benefit/cost ratio. The benefits and the costs are discounted so that the present worth of all costs equals the present worth of all benefits. Various interest rates can be assumed.

Labour Productivity
Labour productivity is a measure of an industry's output per hour of labour worked.

Marketing
Marketing in the agricultural sector includes all of the services involved in moving an agricultural product from the farm to the consumer. Numerous interconnected activities are involved, such as growing, harvesting, grading, packing, transporting, storing, processing, distributing, advertising and sales.

Multifactor Productivity
Multifactor productivity is considered a proxy for a country's innovation performance, encompassing technological change and other efficiencies. It tracks measures of labour, capital and land use, and is seen as a more comprehensive indicator that labour productivity.

Net Value-Added
Net value-added measures agriculture's contribution to the national economy's production of goods and services created in a particular year. It is derived by calculating the total value of agricultural sector production, including program payments, and subtracting the related costs of production (expenses on inputs, business taxes and depreciation). Net value-added is distributed to the various factors of production, including rent to non-operator landlords, interest to lenders, wages and profits.

Quintiles
Quintiles are ranking households in ascending order of total household income and organized into five groups of equal numbers.

Quota Value
The value of a specified quantity of a supply-managed agricultural commodity, such as those in the dairy or poultry industries, which a producer has an obligation to supply.

Rural Area
All territory outside urban areas is considered rural. Taken together, urban and rural areas cover all of Canada.

Technology
Technology is broadly defined to include the technical means and know-how required to produce a product or service. It takes the form of equipment, materials, processes, blueprints and knowledge.

Total Factor Productivity (TFP)
TFP is measured as output divided by all inputs (i.e., capital, labour, etc.).

Value-Added Production
Value-added production refers to products that have undergone some processing.

Urban Area
Urban area includes all large metropolitan areas (even though they do contain some rural areas), most small metropolitan areas (also called census agglomerations). In some cases, where a census agglomeration contains a large rural population, only the urban portion is considered urban. As well, urban areas based on the census definition: "urban areas have minimum population concentrations of 1,000 and a population density of at least 400 per square kilometre, based on the previous census population counts." Taken together, urban and rural areas cover all of Canada.

ENVIRONMENTAL TERMINOLOGY

Conservation Tillage
Conservation tillage is a tillage system that creates a suitable soil environment for growing a crop and that conserves soil, water and energy resources mainly through the reduction in the intensity of tillage, and retention of plant residues.

Conventional Tillage
Conventional tillage is a tillage system using cultivation as the major means of seedbed preparation and weed control.

No-tillage Farming
No-tillage (also known as no-till or zero tillage) is a practice in which the crop is sown directly into soil and not tilled from the harvest of the previous crop. Weed control is achieved by the use of herbicides, and stubble is retained for erosion control. It is typically practised in arable areas where fallowing is important.

Riparian Buffer Strip
Riparian buffer strip is a narrow strip of land along a watercourse designed to reduce erosion, intercept pollutants, provide habitat for wildlife and address other environmental concerns.

Summerfallow
Summerfallow involves keeping normally cultivated land free of vegetation throughout one growing season by cultivating and/or applying chemicals to destroy weeds, insects and soil-borne diseases and allow a buildup of soil moisture reserves for the next crop year.

Windbreaks or Shelterbelts
Windbreaks or shelterbelts are rows of natural or planted trees or hedges along field edges that stop prevailing winds from eroding the soil. Used more frequently in western Canada, where farmland is more susceptible to wind action and where trapping snow for moisture is important.

GOVERNMENT SUPPORT CATEGORIES

Government Expenditures
Government spending (at all levels) on agriculture and food processing in a year, both direct and indirect, to individuals, agencies or associations.

MAJOR EXPENDITURE CATEGORIES

Development, Trade and Environment-Related Program Expenditures
Include administration and capital expenditures incurred by the government to work on regional development, marketing and trade, and environmental activities as well as grants and contributions issued by the government for work on these activities.

Operating and Capital Expenditures
Include government expenditures on general administration and management, and on policy information and statistical services.

Other Expenditures
Include government expenditures on food aid and international assistance, extension, and education as well as social program payments and tax expenditures.

Program Payment Expenditures
Include payments for income support and stabilization programs, ad hoc and cost reduction programs, agri-insurance and financing assistance programs.

Research and Inspection Expenditures
Include administration and capital expenditures incurred by the government to perform research and inspection activities, as well as grants and contributions issued by the government for work on these activities.

Storage and Freight Assistance Expenditures
Program payments for storage and freight.

GOVERNMENT SUPPORT MEASURES

Budgetary Transfers
Budgetary expenditures from governments providing direct payments to agricultural producers.

Market Price Support (MPS)
Transfers to agricultural producers from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity.

Producer Support Estimate (PSE)
A yearly measure of policy support to farm producers. It is the sum of market price support and budgetary payments to producers, expressed as a percentage of the gross farm receipts.

Gross Farm Receipts (GFR)
The value of commodity production plus the direct transfers received by producers in the current year.

Single Commodity Transfers
Transfers to agricultural producers from policy linked to the production of a single commodity, such that the producer must produce the designated commodity in order to receive the transfer.

TRADE CATEGORIES

Agriculture and Agri-Food Exports
Agriculture and agri-food exports include the export of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products, and floriculture and nursery.

Agriculture and Agri-Food Imports
Agriculture and agri-food imports include the import of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products and floriculture and nursery.

Intra-Regional Trade
Trade between two regions in a given location. For example trade between Canadian provinces or the European Union member countries.

Primary Agriculture Product Trade
Uses the North American Industrial Classification System coding structure as the basis, defines primary agriculture as codes 111 and 112.

Processed Agri-Food Product Trade
Uses the North American Industrial Classification System coding structure as the basis, and defines processed agri-food products as codes 311 and 3121.

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B1.3-B1.4	Statistics Canada, Annual Labour Force Survey, special tabulation
B1.5-B1.6	Statistics Canada, CANSIM Table 379-0027 - Gross Domestic Product (GDP) at basic prices, by North American Industry Classification System (NAICS); CANSIM Table 379-0025 - Gross Domestic Product (GDP) at basic prices, by North American Industry Classification System (NAICS) and province, annual Provincial GDP and special tabulations for AAFC
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B3.3	AAFC, Farm Income, Financial Conditions and Government Assistance - Databook, Table C.3 (May 2012 update)
B3.4	Agricultural Science and Technology Indicators (ASTI) Database, 2011
B3.5	OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database 1986-2011.
B3.6	Statistics Canada, CANSIM Table 358-0024 - Business enterprise research and development (BERD) characteristics, by industry group based on the North American Industry Classification System (NAICS), annual (dollars unless otherwise noted)
B3.7	Saskatchewan Pulse Growers Annual Report, various years.
B3.8	Statistics Canada, Catalogue No. 22-002-X Field Crop Reporting Series Stocks of Principal Field Crops at July 31, 2011
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B3.12-B3.13	Farm Credit Canada, Vision Research Report, November 2011
B3.14	Statistics Canada, Farm Financial Survey, 2010
B3.15-B3.16	Statistics Canada, KLEMS database and AAFC calculations. also - CANSIM Table 383-0022 - Multifactor productivity, gross output, value-added, capital, labour and intermediate inputs at a detailed industry level, by North American Industry Classification System (NAICS), annual (index, 2002=100 unless otherwise noted).
B3.17	Statistics Canada, Catalogue No. 88-001-X Science Statistics -vol.33 No.4 - Industrial Research and Development, 2006-2010, data from 1980 to 1994, special tabulation
B3.18	OECD, Structural Analysis (STAN) Database Indicators, 2009
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